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Paul Withington

THE
BOOK OF ATHLETICS

EDITED BY
PAUL WITHINGTON, M. D.

Assistant Graduate Treasurer Harvard Athletic Association, 1910–1914; Captain Harvard Swimming Team, 1908, 1909; Member Harvard Football Eleven, 1908, 1909; Member Harvard Eight-Oared Crew, 1909; Winner New England Championship in Wrestling, 1909; Winner Boston Metropolitan Championship in Single Sculls, 1912, 1913; Captain Union Boat Club Eight.

Illustrated From Many Photographs of Athletes and Athletic Events



BOSTON
LOTHROP, LEE & SHEPARD CO.

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THE BOOK OF ATHLETICS

Norwood Press
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PREFACE

"THE Book of Athletics" first appeared in 1895. It was edited by Norman W. Bingham, Jr., at that time Captain of the Harvard Track Team, and was a collection of articles "containing practical advice and suggestions from college team-captains and other amateurs on football, baseball, rowing, sprinting, tennis, golf, bicycling, swimming, skating, yachting, and other allied subjects," and was intended as a guide to young athletes.

Nearly twenty years have elapsed since the appearance of this book, and in that time knowledge of and participation in athletics have spread tremendously. There are to-day volumes of material, both instructive and historical, on all branches of sport. There are dozens of men skilled in coaching scattered over the country, teaching men and boys both the elements and fine points of our many games, and there is to-day a widespread and almost universal interest in sports which far surpasses that of twenty years ago. With this spread of interest, there has grown up an ever-increasing desire and demand for the expert's view, with the result that the daily papers, the

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current weeklies, and the monthly magazines are full of accounts of games, discussions and criticisms written by star players and expert coaches. Many of these articles are mere trash, others contain much that is good. It is from such material that the nucleus of this book was gathered.

"The Book of Athletics" is a collection of articles written by players, captains, coaches, and trainers of many college teams, and by others who have had a wide experience in athletics. While it makes no pretense of containing exhaustive treatises on all branches of sports, or even of being a complete and sufficient text-book on those sports considered, it has been the endeavor of the editor in gathering material to cover in an interesting and instructive way the games commonly played in school and college circles. The book is designed to give those interested a certain amount of knowledge and insight into the player's side of athletics. It is intended that the discussions shall not be so technical as to be unintelligible to beginners, nor so elementary as to fail to interest the more expert.

The present edition will be found to be somewhat more specialized than the first. This seems to coincide with the trend of the times. The greatest space and endeavor have been given to what are known in college ranks as the major sports. Accordingly, much more space

has been allotted to football, on which there are articles not only on the game in general, but on each position and on the important features of the game. Track athletics likewise have become so important that sections are devoted to its several events. In other sports, where the general knowledge is so advanced that teaching-articles would be more technical than is the plan of this book, there have been substituted articles with either an historical or a psychological interest. Thus in baseball, the articles deal not so much with the coaching or playing of the various positions as with the importance of team play, quick thinking, and a thorough understanding of the intricacies of the game. But though the major sports claim most attention, the minor sports have been by no means neglected, and an effort has been made to include all the forms of athletics common to schools and colleges, the list including, besides the above mentioned sports, rowing, ice-hockey, tennis, swimming, soccer football, wrestling, lacrosse, basket-ball, and golf. To have covered all sorts of sports as fully as in the case of football would have meant a book so large and so expensive that its very aim would have been defeated.

For the sake of comparison, one or two articles from the first edition are included in the second. Golf, twenty years ago, was a new game in America and the article was entitled,

"Golf the coming game." If for no other reason, a reprint of this article is interesting for comparison in view of the general popularity of this game to-day.

The writers of the various articles are thoroughly familiar with their subjects, and each division contains a wealth of excellent material. The men are all experts in their lines, in fact, in many cases stand at the head of their particular branch of athletics. It would be quite impossible to make up a list of the greatest athletes and athletic teachers of the present decade without including such names as those of the late Michael C. Murphy, the dean of track coaches; Dr. Alvin C. Kraenzlein of Pennsylvania, who is to organize and train the German Olympic Team of 1916; Ralph C. Craig of Michigan, winner of two first places in the 1912 Olympic Games; James Thorpe of Carlisle, the wonderful Indian athlete; Keene Fitzpatrick, Track Coach at Princeton, formerly at the University of Michigan; all of whom are contributors to this book. Quite as impressive as any is the football section, with articles by Fielding H. Yost, Coach of the Michigan eleven; Henry H. Ketcham of Yale; E. J. Hart, Sanford B. White, and J. M. Duff of Princeton, the latter now Coach of the University of Pittsburgh; Leland S. Devore of the Army; John Dalton of the Navy; Percy L. Wendell and Edw. W. Mahan

of Harvard. But the other sports are quite as well and fully covered — Tennis by R. Norris Williams of Harvard, Intercollegiate Champion and member of the American Davis Cup Team in 1913; Hockey by Fred D. Huntington of Harvard and member of the Boston Athletic Association Hockey Team; Basketball by Fred A. Kohler of Princeton, and Jas. A. Reilly of Yale; Lacrosse by Paul Gustafson of Harvard; Rowing by Gen. W. A. Bancroft; Soccer by H. G. Francke, Captain of the Harvard 1914 Association Team; Golf by the late Ralph Cracknell and S. P. Griffitts, Manager of the Harvard 1914 Golf Team. Each sport included is handled by well-known and capable athletes. The personality of these men is portrayed in their work and adds greatly to the interest and value of the book. Where no author is specified, the article has been prepared by the editor, who has covered the subject of Wrestling, and contributed articles on Football, Rowing, and Swimming.

PAUL WITHINGTON.

Harvard Athletic Association,
May, 1914.





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THE BOOK OF ATHLETICS

INTRODUCTION

THE ESSENTIALS OF AN ATHLETE



THE
BOOK OF ATHLETICS

INTRODUCTION

THE ESSENTIALS OF AN ATHLETE

The great majority of our boys would like to be athletes. There is nothing wrong or abnormal in this desire, and the only thing to be regretted is that all do not follow up their wish and actually become athletes. There are few boys, indeed, who have not the ability, the strength, and the time necessary to make them proficient in some branch of athletics. The essentials of a good athlete are few and simple.

First, what are the physical requirements of an athlete? A great many boys would like to be athletes, but say to themselves, "We are too small — we are too light, we would have little chance against men so much stronger — others will laugh at our attempt." They are wrong. A few years ago Mr. Wm. F. Garcelon, then Graduate Treasurer of the Harvard Athletic Association, formed what he called "a class for non-athletic freshmen." To begin with, he chose seven boys in the freshman class,

whose records in studies were above the average, but who had never entered into any athletic games and who were consequently undeveloped physically. Three times a week throughout the winter and early spring he went with these boys to the gymnasium. He saw that they learned to run, to jump, to vault, to tumble, and to hurdle. They were given a few lessons in boxing, a few in fencing and in one or two other forms of sport. None of these boys had ever attempted any of these things before, but every one of them took to it like ducks to the water. They enjoyed it and surprised themselves when they found that they possessed ability in things which they had supposed beyond their possibilities. One member of the class became so proficient in jumping that he won his numerals in an inter-freshman meet. One later became a member of the 'varsity track team and was entered in all its games.

Since its origin this class has grown in size and in compass, and each year has thirty or forty members. Its object remains the same — to interest the boy who has always considered himself non-athletic, in athletics as a source of pleasure and education. Hardly a year passes but one or two of these boys become leading candidates for some one of the many Harvard teams. I have followed this class each year, and I can think of no boy that worked conscientiously, who, at the end of the given time, was

not a very fair performer in at least one of the chosen activities. Several of these boys have become very proficient; one as a captain of the fencing team, several as candidates for the wrestling team, others as candidates for the track team.

This being the case, let no boy hesitate to enter the great field of athletics because he is too small or too weak. There are many great "little" men in the athletic world to-day, and the boy who is weak has no better way of becoming strong. Even physical defect is not always a sufficient reason for not entering heartily into games. To be sure, a boy with a bad heart or other organic weakness should enter competition only after consulting his doctor, but even boys with weak hearts have been known to get strong and become athletes of note. Physical defects of other sorts can often be greatly minimized by judicious athletic exercise, and, though often a hardship, should not be a barrier to the enjoyment of sports. I have personally known several swimmers of great ability who had the full use of only one leg — there have been men with but one arm on college football teams, and others with similar handicaps making good in tennis, gymnastics, and other sports. The realm of sport is so large that physical deficiency should rarely bar one from athletics. There are games suited to big men, and games suited to small men —

games where great strength is an advantage, and games where it counts little or nothing; games where quickness is all-important, and others where endurance plays the greater part. In fact, in following athletics closely, one is amazed at the great variety in types of athletes.

So much for the physical, now for the mental. It seems to me that first of all comes perseverance. A great many times men come out for athletic teams in their first college year who appear hopeless so far as ever becoming first-class players — these same men work from one year to the other, apparently improving little until finally in their junior or senior year they blossom out as stars. Now what has caused this change? Not any new coaching or any new-born ability; not recently gained strength. It was perseverance, the determination to master the goal which had been set, the gradual overcoming of first one difficulty and then another until finally the lessons so tediously learned became second nature, and the old task which seemed so hard was made easy by practice. These are the cases in which the coach rejoices and which go to make athletics truly worth while.

Courage is a great asset, but courage can be gained by perseverance. Ability for quick thinking, or decision, is worth much to an athlete, but this quality has been gained through

perseverance. Level-headedness is often gained by continual practice. These all are essentials, but they are all secondary to perseverance, and this great truth every athlete should bear in mind.

Lastly, what are the essentials morally? They may be summed up in the few words: the spirit of fair play. Every true athlete wishes nothing but what he gains fairly and squarely. "It is better to play fair and lose than to win by foul means," is told to boys so often that they sometimes feel it is an idealistic statement which means but little; but not until an athlete has made this his motto and acts according to it does he really come to know the fun of competition and the true pleasure of athletic games.

So if we sum up our essentials we find that few boys indeed are so built that they do not possess them all. God has given most of us bodies sufficiently strong, perseverance sufficiently lasting, and the spirit of fair play. If we develop all of these and abuse none, there is little reason why most of us should not be athletes.

COMPETITIVE ATHLETICS: THEIR PLACE IN SCHOOL AND COLLEGE SPORTS, AND A WORD ABOUT TRAINING FOR ATHLETIC EVENTS

We live in an age of competition. Wherever the youth of America gathers, and wherever the formation of a team is possible, we find competitive games going on. Schools and colleges are often judged in the public eye more by the success of their athletic teams than by their attainments in the fields of education. Athletic clubs flourish all over the country, and in all cases they flourish in almost direct relation to their achievement in competitive games. This condition is in many respects comparatively recent, and like all rapidly growing institutions, it has its good points and its bad. Few will deny that the intense interest in athletic contests is a factor in bringing about democracy and in breaking down provincial barriers. Another desirable condition which competition in athletics enhances is the increasing number of young men who are gaining the value of physical exercise. But I am not here going to discuss the merits of competitive athletics, but shall rather point out certain dangers

which lie in an over-abundance of competition for the growing boy.

Wherever we see boys at play, we are always amazed at the tremendous amount of muscular exertion which they can endure without becoming fatigued and without serious after-effects. His ability to stand tremendous exertion and recuperate from it rapidly is at the same time the boy's greatest safeguard and his worst enemy in competition. In childhood, children are incessantly on the go, but while their little bodies become tired, their minds are laboring with none of the cares of their older brethren. As the boy grows up and goes into preparatory school, he becomes wrapped up in his athletics. All about him is evident the glory of athletics, and he wishes to have his share in their honors. He goes out for his school team. In the majority of cases the actual physical work which he undertakes is probably no greater than that to which he is accustomed. There has, however, been added to his play a serious note, the mental strain which comes with the necessity of doing his level best whenever he is called upon. His exercise is no longer the result of impulse alone, but it is a part of a well-formed plan. From the educational point of view this may be a gain; from the physical point of view, unless carefully guided, it becomes a danger.

When a boy is running and playing for fun, although he may be trying his best, he will

never drive himself beyond the breaking point. The same boy placed on the running track with a month's training behind him, with his schoolmates urging him on, will fight until he can do no more and will punish himself to the last notch of his endurance. In this case, the harm is done, not by the running, nor by the exercise, nor by the muscular strain, but by the addition of mental anxiety to the physical strain. A wise old Boston doctor once said that no man could work his brain and his muscles at top speed at the same time without breaking down, whereas any man could work either his brain or his muscles at top speed and thrive. And yet this is what our school-boy athlete, who is going through a series of strenuous competitions, is actually trying to do. He throws into his competition not only his arms and his legs, but his mind, working at its top rate of speed. He has not learned that his spirit is developed far beyond his physical strength.

This does not hold true in all cases. There are many boys who, when they enter school, have passed that developmental stage, or that line which divides the boy from the man, and are less liable to suffer harm. But to the boy who is still growing fast and who is working hard on his studies, I would advise a minimum of competition, although the amount of physical exercise may be considerable. In the long run, such a course will not prove unsatisfac-

tory. I think it can be stated as a fact that the majority of great college athletes either played no part at all or a minor part in their school contests. They were either too small for the team, or had not gained their strength and poise. This is probably more true in such branches of athletics as track and rowing, where greater endurance is required in every race, than it is in games such as baseball, tennis and football, where lack of these qualities may be made up for by particular skill. In many cases the great school athlete finds himself passed in college by boys who were undeveloped in school.

Although competitive athletics is a dangerous field for the unguided boy to tread, nevertheless there is so much to be learned from its struggles that it has become regarded as an essential part of school and college life. In order to make this part as sane as possible, in order to guard against its dangers, there follows a discussion of that problem known as training. There is probably no factor in connection with athletic events which has been so wrongly interpreted as that of training. It is an essential part of well-conducted athletics, but sometimes much exaggerated and grossly abused. To the uninitiated, training, especially at one of our big universities, means trainers, masseurs, and training-tables, all so arranged as to put the candidate through a period of

severe, gruelling preparation for his coming event. Unfortunately, in many cases this idea has had more than hearsay for its basis. Many weird practices have gone on under the caption of training. To add to the glamor of training, the professional baseball teams of this country arrange elaborate spring training trips lasting over a period of a month or more. But when one analyzes training and comes down to hard-pan, it means merely getting the body and the mind, which is fully as important in all contests as the body, into the best possible condition to undergo the strain of competition. The best way to accomplish this is the simplest way. Training means nothing more than leading a healthy, normal life. It means plenty of sleep, plenty of good, common food, plenty of fresh air and a moderate amount of well-directed exercise; it means doing the daily work in a business-like and systematic manner, so that its cares may not detract from the strength-building process.

One mistake which young athletes are most likely to make while training is to overdo the amount of hard exercise. It takes very little extra work to get a young, active boy into good physical shape, and it is a wise trainer or coach who realizes that when his charges are in condition, very little work is required to keep them there, whereas a great amount is sure to send them to the line stale. In the beginning, the

work should always be light until the muscles, the heart, and the lungs become accustomed to the new conditions. The increase should be gradual. If trying for speed, that is, running, rowing, swimming, a boy should not attempt races or time trials over the full distance until his condition is good. The stop-watch should be put away until such time as he is fit to do his best, and then the watch should appear not oftener than once a week. If training for a team, the men should not be allowed to lose their edge from overwork. An hour a day of fairly active work of any sort is ordinarily enough, and never should the day's work be so long as to leave the athlete exhausted.

Then as to sleep. Nothing is so important as plenty of sleep taken at regular hours. Endurance is directly dependent upon sleep. No boy in training ought to do with less than nine hours of sleep; a great many need a full ten. As men grow older, they can do with less, but even old-stagers plan for a good night's sleep before their important contests, and the best athletes always make early bed hours their rule. Ten o'clock is the usual bed hour for college teams, nine-thirty before important events. Sleep more than anything else restores the muscles to their normal condition, and after exercise, it provides the best means for removing the waste material and storing up of new fuel in the body tissues. So we make the rule

that plenty of sleep is essential to training in athletics.

Always a much-discussed question is that of the diet during the training period. The training-table in the past has been much abused. It is now looked upon not as an essential part of athletics, but as a pleasant means whereby the men on a team are brought together on intimate terms, where they grow to know one another, and where they can obtain good, plain food. Only a few years ago the idea was prevalent that a great many foods had no place on the training-table. Sugar was ruled off. To-day we know that there are few dishes indeed which one finds on a home table that cannot be eaten at the training-table. We no longer abide by the idea which grew up from the days of English prize-fighters, that an athlete must live on raw beef and ale, and although our training-tables are the direct result of the training of these same prize-fighters, we realize that the same methods are not necessary in training school boys and college men that were employed to sober down the idol of the ale-house. It is always dangerous to name a diet because individual idiosyncrasies must be considered, and such lists are too often taken literally. However, it is safe to say that in moderation, all the common fruits and vegetables, the ordinary meats, the common cereals and simple puddings may play a part in the training-table diet.

So if a list is to be given, it should be some such as the following: All sorts of plain soups, meats, fish, game, cereals, milk, butter and eggs; all the green vegetables and fruits, simple puddings, stewed fruits and ice-cream. Fried foods and pastry should be eaten only in small amounts, and only when most carefully prepared. They are harder to digest and sometimes cause upsets. The food should be carefully cooked, plentiful and of sufficient variety, so as not to become monotonous. Cream, butter and sugar are all desirable when used with discretion. It is very important that the hours for eating should be regular. In fact, during training regularity is one of the most essential factors — regularity in sleeping, eating and working.

More important than the every-day diet list is the choice of menu for the day of the contest. The meal previous to the contest should be eaten two or two and a half hours before the event is to take place, so that there will be time for the food to get out of the stomach. It should be plain, but substantial. A good lunch is made up of chops, steak or broiled chicken, boiled rice, toast and butter. It is just as well not to include soups, desserts and milk before a contest.

Cleanliness is all-important. Athletes are often upset by boils and other skin diseases, because they take no care to be clean. Bathing

too little and wearing dirty clothes while exercising are causes for skin troubles. It is often a source of false pride among athletes never to allow their athletic clothes to be washed. There is no excuse for this, and many an athlete has been upset by the resulting attack of boils, through which not only does he endanger himself, but may infect his teammate by his carelessness. At Harvard this sort of infection has been greatly minimized among the athletes by seeing that their shirts, "jocks," stockings, and other underclothing are washed at frequent intervals. Besides this, it is important that the clothes should be thoroughly aired daily.

The rules for training we find sane and simple. Regular hours of work and sleep, good, plain food, a minimum of excitement and unusual strain, a moderate amount of well-directed exercise. In short, we make our training period constructive rather than destructive. The body should gain in weight and strength each day. We prohibit the use of tobacco and alcohol because they detract from rather than add to our bodily condition. The same is true of other stimulants.

In conclusion, no growing boy should attempt an excessive amount of athletic competition. The boy who attempts competition at all should do so under the supervision of either a competent trainer or a trained physician. His plan

of work should be carefully mapped out so as to provide against overdoing. With such restrictions as we have laid down, harmful results from athletic sports will be brought to a minimum.



FOOTBALL

FOOTBALL: TEAM-PLAY; TYPES OF PLAYERS, AND RULES

Among the English-speaking people, football in its various forms is probably the most popular of all games. In Great Britain professional soccer attracts the widest attention, while rugby is played in schools and colleges. In Australia and New Zealand rugby is extremely popular both as an amateur and professional sport. In Canada the modified game of rugby has an established place in school and college seasons, and in America no game holds such undivided attention among the student body at large as does our intercollegiate football, while soccer and rugby have a strong following in certain localities.

This popularity is not without its reason. No game so well as football combines speed, strength, endurance, cleverness, and quick thinking with the elements of personal contact, and no game lays such stress on the importance of team-play. This is particularly true in our American game. During its forty-odd years of development, there has been an increasing value placed on team-play, so that to-day no other feature is so essential to a team's success

as its unity alike in attack and defense. There are many different schools of football coaching. There are eleven different positions on every team. There are innumerable details for the football player to fathom, but in all schools and in each position and in every lesson the underlying current is that of team-play. The great coach is not necessarily he who can invent new and startling plays, but rather he who can teach his team to play as a unit. He drills his line to charge as one man and his backs to act with one another and with the line. Can there be anything more thrilling than a long run in a championship game of football, and is any athletic performer more deserving of the credit which falls upon him than the runner? Yet in every case this brilliant run belongs in equal measure to the linemen who have opened the hole and to the backs who have given interference or acted as decoys for the runner's protection; and likewise when play after play fails in its attempt, the failure is not that of the individual, as a rule, but of the machine of which he is a part.

If the young reader will bear in mind this importance of team-play, he will gain much more in his study of his individual position, for in every case the positions are so closely woven together that a complete understanding of one involves a knowledge of the other. A center who learns only his own play and not that of

his quarter-back and his guard, will not fit on his team. The guard who is ignorant of his tackle's every move will find himself out of play. The tackle and the end must continually call upon one another for assistance. If the bond between the two is not complete, the opponents will find the weakness. The backs must play in unison with one another, and with the line, or their efforts are futile; and the quarter must reflect the whole team as he performs his work. It is only when team-work is perfected and such unity is established that a team accomplishes its goal and surmounts by coöperation difficulties which to the individual would be impossible.

If, then, football is so dependent upon team-play, why is it that the types of players vary so? There are several reasons. First of all, the eleven positions offer opportunities for many styles of play. However, far greater than this is the fact that football is unlimited in its adaptability to the individual. Occasionally one finds a school of football in which making a certain type of player is an important part, but in the so-called new game, we find the leading coaches more and more adapting their style of play to the men with whom they are dealing. It often happens on a big university field that the plans of the entire season are gradually changed with the development of the material at hand. Instead of a running game,

a kicking game will be developed, or the passing game may become the most effective attack, and vice versa. As a result, we see in the papers that this or that coach has become a strong exponent of the kicking game and has discarded the running game, or that that coach has adopted the intricate passing game and is, as a result, progressive in his style of play. On close analysis we find that in the majority of instances, this change of policy is dependent on the ability of the men who are candidates for the team. A man who possesses an extraordinary kicking ability may be the cause for reshaping his team's attack; another set of men because of their strength in the line may lead to the adoption of the rushing game; a third group of men may possess peculiar ability in handling the forward pass with an equally striking result. So we find all types of men on the football field — short men and tall men; heavy men and light men — and each may be a star in his particular way. This very fact gives to the boy who is ambitious to become a football player his greatest encouragement. If he is a keen observer, he realizes that though his physical endowment may be less than his brother's he may make up for it by his skillfulness or cunning, for although the game of football is one in which strength and endurance are important, they are not the only attributes necessary for good playing.

The rules of the American game have undergone many changes since their first codification. This is particularly true of the last decade. The result has been that players and spectators alike have been somewhat confused in their interpretation of the rules. There are certain fundamental principles, however, which always have been a part of the American game of football, and with these principles every player should familiarize himself. Failure to know the rules may cost the team a victory. It becomes the duty of every player each year to familiarize himself with the rule-book, and not only should he know the rules, but let him study out the reasons which underlie them. In this way he will find their interpretation less difficult and himself less often in strange situations. By studying the rules a boy can do more to make himself valuable as a football player than in any other single way, for he then will be less liable by breaking a rule to cause his team the loss of yards gained by hard work. In spite of the fact that players and coaches alike realize this fact, every year one sees on college and school football fields violations of the rules through nothing but ignorance. Here I shall endeavor only to call attention to certain points which are often neglected, and whose neglect may prove costly:

Firstly, the rule in regard to onside play should be thoroughly understood. The failure

to realize when the opponents are on-side and may recover a free ball has often cost a touchdown. The rules in regard to holding and use of hands are frequently neglected. The definition of the safety and touch-back have led to many a long discussion. A situation which often arises through ignorance is the failure of players to realize that the umpire's horn does not declare the ball dead and that this prerogative belongs only to the referee. These are but a few of the rules more commonly neglected. It is not the intention here to go into detailed discussion of rules, but merely to impress upon the young player the importance of knowing them thoroughly. As has been said, no one thing will go so far toward a player's success as his thorough knowledge of the rules.

MODERN FOOTBALL AND HOW TO PLAY IT

BY MICHAEL C. MURPHY

THERE is no reason under the sun why any healthy boy should be denied the right to play football under the present rules. I have never had any sympathy with those parents who decline to let their children take part in this greatest of American college games, simply because of a fear that they may be hurt. I have always contended that participation in the sort of games that require a certain amount of the strenuous "give and take" spirit is good for the normal boy and makes better men, physically, morally, and mentally. A boy who is afraid to play football because it may result in bruises is the sort of a boy who always will be afraid to take his own part. They are the type who come out of college "mollycoddles," and we have no room for citizens of this stripe.

New Types of Player Demanded

There is no doubt whatever that the changes in the rules and the steady development of the

game itself have made it imperative that we have a somewhat different type of player to-day from what we had ten years ago. The abolition of the mass formations has taken away the premium on beef and placed it on brains and speed. Of course, weight and strength are very essential to a good football player, but they are totally useless unless they are reinforced with speed and the ability to think quickly.

The forward pass emphasizes the need of a man who has speed and strength. When this play was first introduced the majority of coaches had a sort of good-natured contempt for it. They seemed to regard it as unsafe and of little value in advancing the ball. Consequently it was used in only one simple formation and not enough attention was paid to the development of that.

But within the last few years a wonderful transformation has taken place in the play. At last its offensive value is beginning to be understood and many new and startling formations are sure to be developed from it. The successful manipulation of this play demands men who are fast as well as strong. The tendency of the forward pass, I think, will be to develop formations in which any one of four players may be selected to do the passing. Further, I think many of these plays will be executed while the team is on the move. It will therefore be essen-



A WELL-PLANNED FORWARD PASS IN HARVARD-YALE GAME, 1913. HARDWICK OF HARVARD IN FOREGROUND, JUST TURNING TO CATCH THE PASS.



HARDWICK RUNNING FOR A TOUCHDOWN AFTER RECEIVING FORWARD PASS IN HARVARD-BROWN GAME, 1913. THE PASS WAS SIMILAR TO THAT IN PICTURE ABOVE.



FISH OF HARVARD ABOUT TO RECEIVE A FORWARD PASS IN HARVARD-YALE GAME, 1908. CUTLER, WHO MADE THE PASS, HAS BEEN TACKLED BEHIND THE LINE. THE BALL IS SEEN IN MID-AIR.



POTTER OF HARVARD, A CLEVER PASSER, THROWING BALL TO FELTON IN HARVARD-BROWN GAME, 1911.

THE FORWARD PASS

tial that every player concerned be able to pass or catch the ball while in motion and under almost any condition.

The new style of play calling for speed, agility and strength is sure to result in more careful training by players. Primarily, it is more essential than ever that the players master the rudiments of the game, such as catching the ball, falling on it, etc. In fact, the man who can handle the ball as one would a baseball is sure to attract the attention of his coaches at the start. He has acquired a big advantage over his rivals who have not this skill. It is no longer possible for a player to rest content in his belief that he is indispensable to the team. The style of game which such a man could always play has passed.

More Careful Training Needed

With the improvement in the game its popularity has increased and the fight for places on the big college elevens is keener than ever. It is not unusual now for a big university to have enough men for two elevens, almost evenly matched. Two players not infrequently work throughout almost an entire season before the coaches are able to determine which is the better fitted for the position. It is for this reason that a player who hopes to secure a place on his team ought to present himself in pretty

fair condition. The season is so short that the man who reports over-weight and soft is likely to find himself hopelessly distanced by the time the season is under way.

In this connection players should be cautioned not to allow themselves to be over-trained before the season actually starts. I have frequently seen players who, either from their anxiety to be in proper shape or a fear that otherwise they might not make the team, worked a whole summer and then presented themselves at the beginning of the season under-weight and in no condition to stand the hard training required of them.

As a result they fell by the wayside before the season was half over and were of even less value to the coaching staff than men who went to the other extreme. The ideal system is for the candidates to do just enough hard work playing baseball, tennis or swimming to present themselves without too much fat, but in condition to work themselves into pretty fair shape without being weakened by the process.

Interscholastic Football

Many times I have been asked what steps should be taken to control interscholastic football and club games to the end that injuries might be reduced. I state without hesitation that the authorities of schools and athletic clubs

are guilty of gross negligence and are really to blame for most of the injuries. This is because they either permit boys to play the game without having had the proper training or allow games between two teams that are hopelessly unequal. What else can be expected if a boy weighing 130 pounds is pitted against a man with an advantage of from 25 to 50 pounds in weight and four or five years in experience? Under these circumstances injuries are bound to occur.

There is also an inexcusable lack of precaution displayed, when men and boys are allowed to continue in the game when exhausted, or after being injured. I have been associated with football almost from its inception in this country. Years ago the sport was far rougher than it is to-day. Since that time our big universities have not only eliminated many of the rougher features of the game, but they have surrounded the players with many safeguards. Those who are constantly criticising our college football would do well to consider the fact that at the six leading colleges of the East: Yale, Pennsylvania, Princeton, Cornell, Harvard, and Dartmouth, football has not, so far as I can recall, ever resulted in a fatal accident. I call attention to this to show what can be done to make the game safe.

I am not disposed to deny that football is a rough game. But when cleanly played, as it

is in our big colleges, and when properly safeguarded, the element of danger is almost entirely eliminated. It is only when the minor colleges ignore the precautions that the big universities take, when they play injured and untrained men, that we hear of such fatal accidents.

I take very little stock in most of the statistics of college football accidents. Many of them are totally inaccurate, some without any foundation whatever, and nearly all of them exaggerated. It is a well known fact that more people are killed automobiling in a week than in football games in years. What would some mothers think if they were told that they risked more danger to their lives in shopping during Christmas holidays, than did their sons by playing football? It is a fact, nevertheless, and capable of ready proof.

These perennial agitations against football are to be deplored. If the football Rules Committee could be permitted to study over the problems that come up and study out reforms as they are needed, the game would work out its own salvation. It does little good for agitators to raise a great howl every time an accident occurs, and then insist that radical changes be made forthwith in the rules. These people by such measures really defeat their own object and hinder, rather than help, the purification of football.

A Good Training Diet

Every fall I am asked a great many times to name a good training diet for football players and other athletes. For a period extending over nearly twenty-five years I have made experiments in dieting athletes, and have also studied the results of experiments on myself. This subject of diet has gone through a good many stages. A great many cranks have written concerning it, and there is an idea in some quarters that to be a successful football player one must eat certain food. We are getting away from such foolish notions now, and getting back to nature.

I always insist, first of all, that the diet shall be as plain as possible, with enough nourishment to keep the men strong. It should never be forgotten that the stomach is the most important factor in condition. Yet I have known football players and other athletes to invite indigestion by taking large dishes of oatmeal with cream and coffee. This causes more indigestion than any other dish I know. Fresh fruits should also be partaken of sparingly, or they will disturb the digestive process.

The best training table diet that I know of consists of the following:

Breakfast: One chop (sometimes two) or eight ounces of beef, two soft-boiled eggs, one baked potato, toast or bread, milk or mild tea;

Supper: [illegible], roast beef, la
or fowl, one smal' steak, one potat
fresh Graham bread, prunes, app
baked apple, milk or mild tea.

If a man is over-weight and want
flesh he should refrain from drinkin
this is one of the most fattening food
It is also injurious to the wind, and
taken with judgment. In case it is
to have a training table, athletes sh
worried. The diet I have given is
can be secured, but if care is ex
equally good diet can be secured at
home. What the athlete should be m
about is to chew his food well, eat n
ficult to digest, and always keep the
good order. This can usually be don
simple diet selected.

TRAINING FOR FOOTBALL

BY DR. ALVIN C. KRAENZLEIN

YEARS ago when it was said that a man was going into training, people conjured up a program of some grilling sort of life, hampered by countless rules which could not be violated without impairing the success of the process. That idea prevails to-day with some who are not familiar with the life of an athlete, but it is almost needless to say that it is a far-fetched misconception.

To be sure, young men in training live in a different manner from what they do when out of training; they are forced to obey certain general rules; they follow a fairly well-defined program. But, when all is considered, everything looked over and weighed carefully, training consists of just one thing — good living.

There was a time when the life of an active athlete was narrow and hard. But that time is past. New ideas have replaced the old and to-day training merely means that a man is taking the best of care of himself, both mentally and physically; that he gives heed to the rules of

hygiene and that he does not abuse the gifts of nature.

It would be a difficult matter to draw up any program that men could follow while in athletics, especially in football. In track, each man has his specialty and must do certain things in order to bring about the best results. Although individuals do these things in a different way and with varying degrees of intensity they follow the same general line. The same is true of basket-ball, while in baseball very definite rules can be laid down. But football includes so many phases of physical and mental activity that any set of regulations compiled for the direction of the training of a football squad would be quite useless.

Here the individual must be carefully studied. Some men need development along certain lines; need to be urged on in some particular activities and held back in others. No two bodies are alike; no two hearts perform their function in exactly the same manner; science has never found a pair of lungs that exactly duplicated another; stomachs are all different; muscles and tendons vary greatly. All these things must be taken into consideration, and careful consideration, too.

It would be impossible to say at what age a boy is strong enough to play the gridiron game. We cannot reckon strength by age in human beings. Some boys are sturdy and strong, pos-

sessed of good lungs and hearts, well-muscled, strong-limbed, when they are fifteen years old. Others are physically immature at twenty; and there are those by the thousand who never attain the physical strength necessary to permit them to play football with any degree of success and without endangering their own health and, perhaps, their life.

Football is a man's game. It is a game for those who can stand the physical punishment of men, and a game for those who can think quickly and clearly, as men think. It is not a game for poorly developed youngsters. They cannot play it in that stage; they may overdo if they attempt to play it and spoil any opportunity that they may have of playing football in the future.

Every fall hundreds of boys' teams are organized all over the country. There are the school teams, the club teams and the independent organizations. I believe that few of the latter ever do the players any good; I mean by this that they do not tend to make the boys better players of football to any appreciable degree, merely because they are not, as a rule, supervised by competent instructors. School teams, in the majority of cases, have some supervision, and by playing on them or following them closely the average boy can learn much of the game.

But when you are playing on a team of boys

you should always endeavor to keep within your sphere; that is, you should play against boys. Don't aspire to too much glory and attempt to compete against teams made up of players who are bigger, older and stronger than you are. That is one of the grave dangers of football and should not be tolerated by the management of any eleven.

I do not mean to infer by this that little fellows can safely play football against teams which compare favorably in weight and age. Although the knocks they might get would not ordinarily be dangerous, their hearts may not be able to stand the strain of competition that, to the outsider, appears to be exceedingly light. The fact that no boy can safely play football until his body is well developed cannot be put too strongly. Judgment in regard to this remains up to the boy himself and to his father or his physician.

Another thing that must be considered is the fact that sixty minutes of playing, in spite of the three intermissions, is a long time. A team of boys can easily be conceived who could play half that time without trouble and without taxing themselves too severely, while any attempt on their part to play sixty minutes of football would be foolhardy.

Do not attempt to overdo. That is the one warning that must be sounded by every man and boy who is interested in football. Study

the game, begin your work gradually, learn to handle a ball, know mistakes when you see them and try to find your way out of difficult situations that you may imagine. But do not overtax your strength. To be a successful player on a big college eleven takes years of training, and the sooner you boys begin to study the game the better prepared you will be to play it when the times comes. But do not think that just because you are not wearing a uniform and exerting yourself until your heart pounds against your ribs that you are not progressing. Many a man has learned enough football from the side-lines to put him on a par with those who have been in the game for years, just because he has not abused his body and is ready to go into a game with a sound heart, deep lungs, and strong limbs; and, knowing the game as he does, he can outstrip the fellow who began playing football too early and has called upon some of his organs to do more than their work.

So much for that.

When you commence your training do not attempt to do it all at once. Go at it gradually. Some men could jump right into the middle of a season, scrimmage the first day, run, kick, pass, and charge without suffering any lasting ill effects. But most players cannot do that. When they have been out of training for months their muscles become soft and they must build them up by careful, patient work.

In the first place, it is necessary to spend some time at the beginning of every football season in practising the rudiments of the game. No man can properly pass or kick without practice and until he can do those things he certainly cannot play the game. So if you devote the first few days to that sort of activity you will be undergoing a necessary part of your preparation and, at the same time, avoid many dangers. To be sure, stiffness and minor injuries will arise from even this light work, but they can be guarded against to a certain extent. If the weather be warm, do not load yourself down with too much clothing. As soon as you have finished your daily practice — which should not be too long for the first few days; a couple of hours is enough — take a cold shower, or, better still, if conditions permit it, take a plunge in some stream or body of water. Do not enter the water in an overheated condition, because such a thing is apt to bring about bad results.

It will be well to watch your ankles during these first few days. A turned ankle early in the season has put many a good man out of the game for weeks. If your ankles are weak, bind them up comfortably with bandages. Also watch your feet carefully. In hot weather heavy football shoes and coarse stockings often blister feet. Keep any chafed parts bound up in cotton and adhesive tape while you are work-

ing. Wash them often and apply any of the numerous healing preparations that are commonly known to athletes.

Stiffness is to be expected. No man has ever trained for football and avoided it entirely. The bath will help alleviate this discomfort and, if possible, have a rub-down after your work-out. There is almost as much in the rubbing itself as in the preparation applied, of which there are many equally good.

After the first soreness has worn off you will be ready for harder work. While you have been mastering the art of passing and kicking and running through signal practice you will find that your wind has improved steadily. To my mind, road work — that is, merely jogging across country — is unnecessary in training for football. Most men get all the running that they can stand in their signal practice and, in reality, they are doing two things at once: mastering their style of play and building up their wind. But take to this harder work gradually. Do not jump into it at once. Remember that football is a hard game and that the season is long and that you must build a firm foundation for your condition in the last few days, which are, in most cases, the all-important ones. Take things gradually. Make your first scrimmages short and you will profit in the end.

Here again we can draw no sharp lines. Some men are ready for hard work two weeks after

they commence training; others will require a month to enable them to stand the strain. It all depends on your own strength. Don't overtax that strength. That cannot be said too often.

When the hard work of the season is at hand, when you are playing weekly games and scrimmaging four or five afternoons between games, running signals and chasing punts, you must watch yourself with all care. Don't stick to the cold bath at this time. Take a warm shower after every work-out. It will help take out the soreness and, above all, will keep the pores open and allow free exit to all the waste material that your body is continually throwing off. Use soap; keep clean. It is an essential to training. The rub-down has now become an exceedingly important part of your training. Do not neglect it if you can possibly have one. It is not necessary to be rubbed down by another. You can do it yourself if you will take the time. Keep the muscles of your limbs, shoulders, and back well massaged.

And now we will take up the eating. This is, as every one knows, one of the problems of training. But what you eat isn't such a big problem as is the one of proper preparation and proper eating. There are few forms of food that are injurious if properly cooked; but no form of food will do you much good unless it is properly eaten. Do not allow food to go

down to your stomach until it is made ready by proper chewing.

Plenty of eggs and milk; beef, chops, roasts, will all help you. Keep away from fried meats. Food fried in heavy fat is likely to upset your stomach, and when that organ is not working as it should no man can be at his best. As for vegetables — well, almost any fresh vegetable, properly prepared, will help you. Luckily, the football season is at that time of the year when fresh vegetables are obtainable.

The desserts should be light. Custards and light puddings will hurt no one, but I would advise keeping away from rich dishes and pies. A soggy pie-crust is well nigh indigestible. Eat plenty of fruit, but do not gorge yourself on it. Excess of any kind is dangerous.

It is best to let tea and coffee entirely alone, but if you have been accustomed to drink such beverages do not cut them off suddenly, for such will have a worse effect than their continued use. And while we are dealing with drinking it might be well to warn against too great a consumption of water. Do not drink with your meals, of all things. Drink before and after, if you will, but let it alone while you are actually eating. Do not drink while you are practising or overheated. If your mouth and throat get dry, take a swallow of water, but don't drink like a thirsty horse. Too much water will ruin your wind.

Eat slowly. Chew your food well. Your stomach has a certain important function to perform and you are supposed to help it in every possible way. Thorough mastication is the greatest aid you can give your digestive apparatus. The man who bolts his meals will find that his stomach will not endure the strain very long and when he cannot properly nourish his system then is the time when he cannot play football.

I take for granted that any boy in athletics knows that tobacco and alcohol are to be tabooed. No matter how strong you may be, you can not summon all your strength in the time of need if your throat and lungs are irritated with tobacco smoke or if your stomach and intestines are irritated by alcohol. Let tobacco and drink alone. They are the biggest handicaps that an athlete can have put on him.

Sleep regularly and soundly. You can do this by training yourself to keep your mind off certain subjects. If you become so deeply engrossed in football that you think of it while in bed you may not sleep. This you must not do, because sleep is an essential. When you are ready to crawl in for the night forget everything. Don't worry about your own standing on your team or the welfare of the eleven. By so doing you will only be impairing your efficiency and the efficiency of the eleven. Get eight hours of good, sound sleep every night at

the very least. And don't take this all after midnight. Retire early in the evening if possible and be out early in the morning. Have all the air that you can get in your sleeping-apartments. If you sleep in a close room it will have a bad effect, while a good sleep in pure air is doubly invigorating.

Do not think about football all the time. Of course, it is the natural thing to do, but you will find that by diverting your attention you will avoid that nervousness which sometimes comes to football players and which makes them hesitate in tight places. You cannot hesitate in football. The game has changed so greatly in the last few years that it takes a different type of man to succeed on the gridiron from that of a decade ago. The big football men of to-day are of alert minds. They can foresee what will be the result of some little action and they will be on hand either to aid or repulse that action. This requires instantaneous thought and action. Punting has grown to be such a big factor in football that better eyes are required. It takes a good eye to judge a punted ball.

Your mind will be active, your nerves will be steady, and your eye will be clear if you live well and think well. Let me repeat: do not overdo, but be content to accomplish a little at a time; keep your body clean; eat good food and eat carefully; keep away from tobacco and alcohol; sleep well; don't worry; don't keep

your mind too closely on football, but when you do think, think hard. And when you get into a game, throw every ounce of energy into the fight. Don't be foolish, but don't quit. Foolish players who take foolish risks and men who quit do not win football games.

THE NEW FOOTBALL A GAME FOR THINKERS

BY FIELDING H. YOST

FOOTBALL has been changed; changed for the spectator, and changed for the player. The former sees an open, running game; the latter is forced to think faster than ever before and must be able to cope with many new and novel situations that are bound to arise.

The game as it is played under the new rules is a game for strategists, for thinkers. The boy or man who cannot think quickly and reason clearly cannot hope to play football successfully.

The forward pass has become a great factor in football within the last two or three years. The rule revision has done much to make its use more effective and I believe that it will be the principal form of attack. In the first place, the old mass play is gone absolutely and something must take its place. The ruling which prohibits the pulling or pushing of men, coupled with that which demands that the team on offense have seven men on the line, has made the mass play all but an impossibility. This

is obvious. Suppose that an eleven should attempt to direct a mass play on guard. What would they do? The only thing that they could do would be to send three of the backfield players crashing into the line and let the man with the ball follow them, trusting to the possibility that those before him could open a hole. The yards that were made by mass plays were not made in this way. They were made because the player who carried the ball was dragged into the line and then pushed forward by others on his team. That is an impossibility now.

Let us see what has been done to encourage the use of the forward pass. In the first place it can now be thrown over any point in the line. That is a great improvement, because many forward passes were declared illegal by officials who did not think that they crossed the line five yards to one side of the spot on which the ball rested when put in play. Again, the penalty has been changed for an incompleted forward pass. When the ball touched the ground before being touched by a player a few years ago, it cost the offending team a penalty of fifteen long yards. This was very discouraging. But now the penalty is much lighter and captains can afford to take the chance more often.

Greater accuracy is required of centers. Many balls have to be passed at an angle, and it requires a vast amount of steady, sincere

endeavor on the part of a man playing center to do this accurately. The man who is to play center cannot have too much practice in passing.

The trick play, the cunning generalship, the taking advantage of openings that are only of an instant's duration will be the means of winning football games from now on. The arrangement of the backs will help deceive the men who are on the defensive. The direct pass has so quickened the game that a man waiting to break up a play has little opportunity to find which way it is going until it is actually in progress.

The elimination of the mass play makes it possible to draw from the primary defense and build a stronger secondary defense. The line need not be as strong as it once was because it does not have to bear the strain that it once did. On the other hand, the secondary defense must be stronger because it is on these men, who are placed in a way that makes it possible for them to shift easily and quickly, that the responsibility of breaking up open plays rests.

It is a faster game and a better game; also, it is a safer game. The serious injuries that befell men while playing football were, in my opinion, brought on by exhaustion, with only a few exceptions. For this reason I think that the division of the game into four periods does more than any other one thing to bring

about safer conditions. The men have an opportunity to rest every fifteen minutes. Even though this rest period be a minute, it is enough to freshen a man up. Besides, this new game involves so many penalties that a man has time to rest while the officials are working. In the game that was played a half-dozen years ago the penalties were few and far between. It was a steady grind with little chance to rest and it was the sort of a thing to wear men down. That has all changed, however, and any normal man who is in good condition should be able to stand the labor that is involved in playing a game of football. The opportunities for re-substituting men also help greatly. Many coaches were tempted to leave a good man in the game despite the fact that he had played until he was not capable of protecting himself. They were so tempted because they knew that if they once called him to the side-lines they could not send him in again. As it now stands, they can take this man out and then return him later in the game. The prohibiting of body blocking on forward passes and kicks, and the passing of mass plays will also do much to eliminate danger. On the whole, the game under the revised rules should be such that it will endanger no life or limb.

Football is a game only for those who study it. No man can play it who does not study its various phases and place himself in every

situation that his imagination can conjure up. It is a game for thinkers. The boy who is not sincere, determined, and possessed of the right sort of fighting spirit cannot excel in football.

FOOTBALL GENERALSHIP: THE CAPTAIN AND THE QUARTER-BACK

GENERALSHIP in football falls under three heads, first the planning and manœuvering of plays and men by the coach or coaches, secondly, the leadership of the captain, and thirdly, the actual selection of plays by the player, usually the quarter-back, who is chosen to direct the plan of attack and defense. Of the first nothing will be said, as this book is written for players rather than coaches.

Successful captains may differ widely in personality, ability as players, and in their methods of leading, and yet there are certain characteristics, which are common to all good leaders. If a captain has a strong personality and is a man of deeds and action, it will go a long way in gaining the confidence of his men, but even men who possess these attributes may fail as captains if they do not possess certain other qualifications. Some captains find success by driving their men, others by leading, but the great captain, whether he leads or drives, must always be sure of his ground. A certain amount of self-assurance and assertiveness is essential; pig-headedness is sure to be detrimental. Above all, a captain must keep

his head, be cool, and always master of the situation. A quick temper is always a handicap to a leader.

In planning his season, the captain should remember that it is a long strenuous siege, and realize that if he begins at once to assert himself to the limit, his influence by the time the big games come will have worn off its effectiveness. It is wise, therefore, to start slowly, and in the early developmental period of the team try to guide and mould the organization rather than attempt to drive. At this period it is better for the captain to say little on the field of play and have that little count. A word of encouragement is always in order, criticism and sarcasm rarely accomplish the ends to which they are directed. Many of the best captains often stand somewhat aloof from their men during the early season and, if not carried too far, this often adds to the respect in which their men regard them.

As the important games draw near, the captain should take his players to his heart, so to speak. Then more than ever should he make his presence, on the field and off, felt by his men. Encouragement is helpful, and at times a sharp word of command addressed to the whole team may add to the esprit de corps. Individual criticism is always unpleasant, and a dangerous implement.

In regard to the choosing of the plays, the

captain should usually not interfere with the quarter-back, who is specially trained in this work. However, the captain should himself have studied the plays and be able to detect the errors in his quarter. In this way, without openly interfering, he may often show the quarter-back a new opportunity, or even correct his mistake.

To the quarter-back falls the big task of piloting the team in its entire offensive play. He chooses the style of attack. If his team comes off the field without having used its strongest plays and used them correctly, he must bear the brunt of the blame. The quarter-back's position is important and arduous, and no place demands such careful and persistent training, for not only must he play his own individual part well but he must plot and plan for the whole eleven that they may put forth their best and strongest front.

The play of the quarter-back may be divided into four large headings. First, the handling of the ball. Second, the handling of the plays. Third, the handling of the team on the offense. Fourth, the play on the defense. Under the first and last headings come his own individual play, while under the second and third fall his part as field general for the team.

In handling the ball, the quarter should be sure there are no fumbles. He pays attention, first, to getting the ball from the center. There

should be perfect coördination between these two, as a fumble here means that the play called for will not be run off successfully. The quarter stands with his hands and arms well under the center, forming three baskets with them, the first with his hands, the second with the bend in his arms at the elbow — the elbows being held close together — and the third formed by the hands, arms, stomach and knees combined. The ball should be handled in the first basket, but the other two are maintained so as to make doubly sure there are no fumbles. In getting the ball and in passing it to his backs, the quarter should work low and at top speed so that the opponents will have as little chance as possible to see where the ball is going. As a further means of baffling the opponents, he learns to assume a varying position each time he crouches under the center, so that his stance shall not give the play away.

In passing the ball to the backs, the quarter faces a difficult task. His work must be so clean and clever that the back does not have to slow up or even think where the ball is coming from. Especially is this true on line plunges where the distance is short and speed must be gained instantly. The quarter has to pass very rapidly or the back will have plunged by and the opening be lost. On such plays the quarter tucks the ball into the basket which the back forms with his hands and stomach and holds

it there until he is sure no fumble can come. This pass must be quick but not too hard. On end-plays the pass need not be made so quickly but the accuracy is even more important as the pass is longer and if the back has to stoop or reach to get the ball, he will surely lose speed. As was said before, the ability to hold on to the ball and not fumble is the first requisite of quarter-back play.

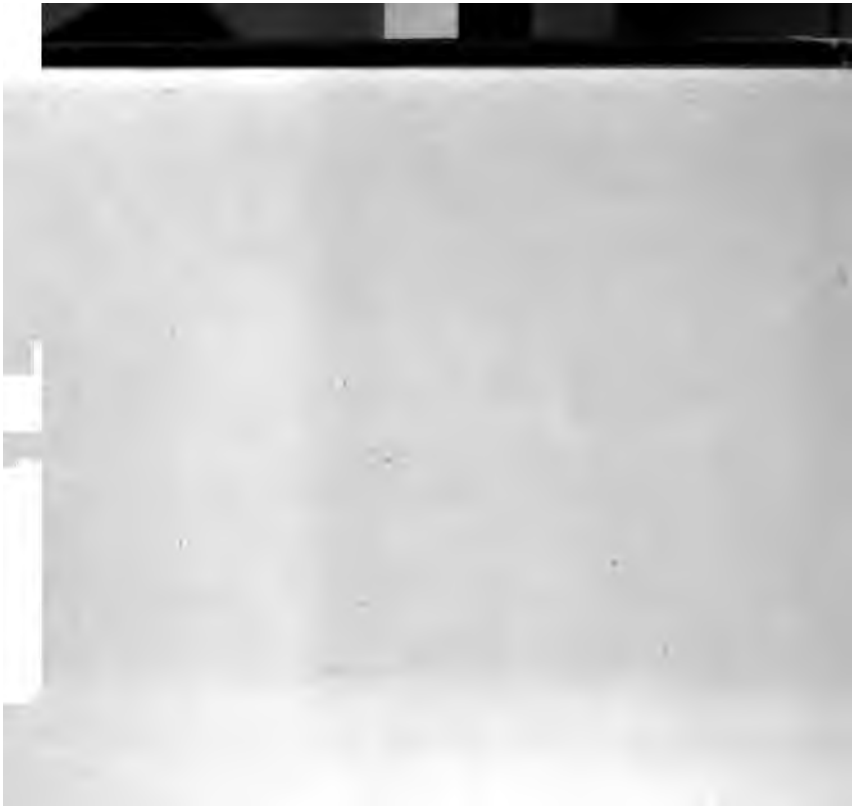
While no boy who fumbles continually will ever be chosen for the quarter-back position, there are many who handle the ball well but do not possess the ability to handle their plays successfully. On this one point may depend the final choice in a close competition of men. What, then, are some of the points for the quarter to remember in choosing plays? First of all, he should never lose the ball on downs. Instead let him get the full price of it, which means the distance his best kicker can punt, or if it be near the opponent's goal, try for a goal. In choosing plays he should always consider the score, the time left to play, whether the wind is with him or against, and whether the sun makes the catching of punts difficult or not. All of these points have often won and lost games. The quarter-back should know his men and use them to the best advantage. Thus he should not tire out a good line-plunger by making him run the end when he has a better man for that purpose in his backfield.



HANDLING BALL IN BACK-FIELD. NOTE POSITION OF QUARTER-BACK, HOW HE HOLDS THE BALL, AND THE "BASKET" WHICH THE HALF-BACK MAKES TO RECEIVE THE BALL. HARVARD-INDIAN GAME, 1911.



HARVARD FOOTBALL MEN PRACTISING TACKLING DUMMIES AT SOLDIERS FIELD, CAMBRIDGE.



In choosing the play and the formation for play, the quarter should study the opponents carefully, looking for weak spots in the line or openings in the backfield. The position of the opponents in the line-up is very important. An experienced lineman on his team may often be of great aid in giving the quarter information as to the weak points in the opponent's line as well as the strong ones. Then he should have his plays so well learned that he can group them in his mind and be able to attack a point in several different ways. He should know his scoring plays, his strong running plays, and his gambling plays, and when to use each kind to its best advantage. If the score is six to nothing against him and there is a minute to play, a good quarter is not going to waste the time trying to plunge through the line from midfield to the goal line but instead he will try one of his gambling plays. Or if he be ahead with the same conditions, he will know enough to play safe and not use a gambling play.

The kicking game should be thoroughly mastered and used to the limit. In doing this the quarter should bear in mind his position in the field. The side-lines and the goal-lines are important. Then, too, the kicker should be well guarded by the skillful use of fake kicks. In all kicking the quarter should do his part in protecting by blocking an opponent.

A good quarter never uses the forward pass

except when he is willing to take a chance, as it may prove a boomerang. The pass is an essential to modern football and the team which has not perfected it, is not going to win many games, but its unguarded use is dangerous. Every pass should be well covered, so that if it goes wrong it will not result disastrously. In the opponent's territory, not in his own, is the time for the quarter to call for the forward pass. In approaching the opponent's goal line he always uses the strongest plays on first down and makes them go. He gathers his team before the attack and drives them into the play at top speed.

No quarter is good until he is an actor to such an extent that he can fool his opponents by his eyes and his actions. This is a little point, but little points must be mastered by the great quarter-back.

In handling the team the quarter must have absolute command. He can only do this by gaining the entire confidence of his team, and his attitude and the character of his voice will do much in accomplishing this. Never should he become discouraged or captious. Never let things lag, but always be alert and eager. Instil in all the team a spirit of unity and action.

When his team is on the defense, the quarter-back usually plays in the backfield, and from a casual glance one would say that he had little to do save catch punts when they came to him.

This would be enough in many games but it is far from all the quarter's duty at this time. First of all he must study the opponents and think and plan out the attack he is to start when his team gets the ball again. Then he must be in constant touch with his team to encourage or to warn of a weakness. Often he can foretell a play from his removed position better than the men in close. As the play develops, he should run up to give support to his team, keeping the runner between himself and the side-lines, so that he can either tackle him or drive him out of bounds. He is the last line of defense and must play it safe. Oftentimes by advancing he can save his team ten or fifteen yards. Or again he may be able to intercept a long forward pass. As the opponents approach his goal line, the quarter closes in and gives more active support, always guarding particularly against passes, wide end runs or trick plays.

In catching kicks, the quarter is all-important. Poor handling of kicks in the back-field has cost many a good team the game. Here, too, the quarter is in command and calls directions as to who shall catch the ball, calling as well when he, himself, essays the task. In catching a kick, the first point is to get under the ball fast, concentrating all attention on the ball. The catcher should never be set but always ready to move with the ball. It is best

to raise the hands well and catch the ball on the chest, grasping it tightly the instant it strikes. In running in the kick, always remember that a step ahead is ground gained, while a step to the side is time lost. However, a successful runner uses all the wiles of dodging, side-stepping, and reversing, but always goes ahead fast when the chance comes. A good point to remember is that when pressed hard, a fair catch is good policy, for the ball safe is far better than the chance of a short run back with a possible fumble.

HOW TO PLAY CENTER

BY HENRY H. KETCHAM

In writing on the center position I may be inclined to give it undue importance and at the outset I want to say that there is not any one player that is going to make the team a good one. Most people will consider the backfield positions the most important ones to fill, and of these, that of the quarter-back probably the most difficult one. This is in a measure true, and a good quarter-back is essential for success, but in looking over the other positions, forming the backfield and the line, it seems to me that they are both absolutely essential and a good backfield with a poor line is helpless.

Too generally the idea prevails that the backfield men alone have responsible positions. They do have the most spectacular parts, and too often the line is absolutely lost sight of. Plays that do not bring all eleven men into them are usually discarded by the coaches. Every man has something to do in every play and the man, no matter who he is, who is not

doing his particular part in every play, is apt to spoil that play, and when only three downs were allowed for ten yards this was a serious handicap.

The point which a Minnesota coach used to lay most stress on was that every time a man was tackled in practice or in a game the rest of the team should find out "who got him," and whose fault it was, and see that the same thing was not repeated.

Great size is not essential to modern football, but any boy with a fairly good physique to start on may build himself up by winter work when others are wasting time in idleness. I know of several fellows who barely made a school team but who, nevertheless, kept working right ahead every winter and working hard to develop their bodies, and ended by making the university team.

Some years back the center position had nothing like the responsibilities that are now attached to it. In the old games it was quite essential for a player to be big and heavy. Ordinarily the largest man was put in that position. Then his work was simple. His only duty was to be able to pass the ball reliably to two places, namely, the quarter-back, and the long pass for the kick. On the defense the center generally played in the line and was responsible only for the little patch of ground that he would ordinarily cover.

The Center's Responsibility

Now, in the present game, a heavy man can still be used but is not essential, and a heavy man without speed is useless. A center to-day has to be wide-awake for all emergencies. No longer are the passes restricted to two persons. A center may have a dozen passes to make now when formations are so numerous and in all these passes a center has to use his head and help his backs.

On a run around end if the ball comes back a little bit behind the man who is to carry it the play may be delayed a fraction of a second and that moment may be vital to the success of the play. For end plays a center can greatly aid the speed of his backs by passing the ball just far enough ahead of them to make them run hard for it. It is also quite necessary to be able to pass the ball in the same spot, as it is the little things that are going to aid the backfield materially.

For the last few years the majority of centers have played out of the lines on the defense, when the other side is going to kick. This greatly aids the center who is going to pass. He ceases to worry about charging his opponent and has a free opening to go down the field under a punt. On the offense, then, watch your passes, but after that is done follow the ball. On a kick your place is down with the ends;

on a mass play or end run get in the inter ference.

On the defensive, too, the possibilities for th center position are much greater than ever The little plot of ground which the old cente used to cover is the smallest part of the dut that the new game requires. Here speed i required more than ever. A center is respon sible for end runs, for forward passes, fo blocking off men going down the field unde kicks, and for handling his individual opponen in his own little bit of territory.

A center should stand two or three yard behind the scrimmage where he will be able t size up a play by the time it reaches the scrim mage line. As soon as the play is seen to b an end run the defensive center should hav time to get out there as soon as the man wit the ball, and, with the help of the end, ough to drive the man to the side-lines, or get hir if he tries to run in. This style of play mad the Yale center of 1910 great, and in the Yale Harvard game this man made nearly half o the tackles, either getting the runner from be hind, or helping the end.

Stopping Forward Passes

In forward passing the center ought to b able to get a pretty good idea as to when thi play is going to be attempted. Football is

game of brains and it consists in trying to outwit the opponents. In one Princeton-Harvard game Harvard tried a forward pass. Blumenthal, the center, who is a short man, did not rush in, but from behind the scrimmage line, diagnosed the play and when the pass was made he intercepted it. Such a play is not a lucky one but is a matter of figuring out what the other team will do, and a thoughtful player can often decide pretty accurately when a certain play is coming. Quarter-backs often give away the play they are planning to use by a glance or a change in position. The difference in posture of a backfield man, be it ever so slight, may serve as a pointer as to what play is going to be used.

On a third down, when there is still some distance to gain, and a kick is inevitable, a center will often fall back six or seven yards toward his own goal. On a good team the center men have very little chance to break through and block a kick and the only advantage in staying in the line is to bother the opposing snapper-back. This annoys a good center but little, and so a man can be of much more use in blocking off a man running down the field and help save his own backs in catching punts. With three backfield men and the center helping to protect the man who is catching the punt, the latter has a fairly good chance to gain five or ten yards in running back.

Most plays coming against the center are de layed plays and a center has to be careful tha he is not pulled in and blocked out of the play If you are playing a couple of yards back, an are watching the ball, you can delay a momen until you are sure where the play is directe and then go in. I think it poor policy to try t break through, but that you ought rather t check the opponent for a moment and afte diagnosing the play rush for it.

This new game affords endless opportunitie for a man who can think quickly and is fast It is hard to mention what chances will occur but a heady player is one who is going to b ready for the chances that do come. White 1911's All-American end, may have had som luck in having the chances he had agains Yale and Harvard, but it was because he wa wide-awake that he could take advantage o them. Opportunities to recover fumbles ar perhaps offered to a center more often thar to other members of the team because he i more or less of a free agent after his pass ha been completed and it is his business to be nea the ball.

Passing for Field Goals

Too often the man who runs with the bal or who makes a kick receives all the reward while the snapper-back is lost sight of. How

many people remember the name of the center on the Harvard team which beat Yale 4-0 in 1908? The name of Kennard has gone down in football history as one of the heroes of the game, while Nourse is probably forgotten. To my mind, Nourse did almost as much toward winning that game as Kennard did. Imagine a team rushing the ball down the field until it reaches the thirty-yard line. There is a pause and a new man hurries on the field. Every one knows what is going to happen. Nourse and Kennard have been practising together for a good many months and now comes the crucial test. Both men know what it means. If the pass is high or low the opportunity is lost, and the strain on both is intense. The pass comes back true and the goal is kicked. But can't you understand what the center had to undergo and how much depended on him? That is the reason why the center's position is difficult, and why I think he plays almost as important a part as the kicker.

I want to call attention to one center whom I have already mentioned. A center handicapped by a small physique has to learn, so to speak, "the tricks of the trade." This is what one famous Yale center did. He was not a big man but he was an accurate passer and could stop any other center with whom he came in contact, and was able to do so because he had learned how to get the most out of himself. For

instance, when playing a man larger than yourself it is necessary to get below him and raise his head. In opposing a center you can use your hands on the defense either by straight-arming him, or raising his head by bringing one arm under his head and charging at the same time. If one is quick enough this will stop any man. This speed and skill made Morris able to oppose and better nearly every center he met.

A center should always remember that his is the "pivotal" position. He is at the center of the line and in a position to give inspiration to those on either side of him. This is an additional reason why he should keep close to the ball and put spirit and dash into his work, appreciating his responsibilities. He is the man about whom the team lines up. He should be close to the ball when it is downed, ready to step up and take possession of it. If the center springs to his position with confidence and vigor it will put spirit into the entire team, and spirited team-play wins games.

In conclusion let me state what I think are the three fundamentals for a good center and which ought to be thought of continually. First and uppermost, watch your passes and realize that the success of every play depends upon *you* and *your* passes. Second, use your hands on the defense. This use of the hands is of the greatest importance and does not want to be

neglected. Third, watch the ball all the time. If a fellow thinks of these things and practises them in a scrimmage, he may help his own game greatly.

HOW TO PLAY GUARD

BY JOSEPH M. DUFF

As we were told down at Princeton, the main essentials of a football player, no matter what his position, are: 1. Follow the ball; 2. Fight, and if there was a third it was to keep on fighting. By "fight" I do not mean "dirty" play, but simply hard play; making the man against you know that you are there. It also means to keep at it. Never let up at all, for a let-up might give the man against you confidence, whereas you want him to fear you.

The first five minutes in a game between two evenly balanced and well trained teams, usually sees the game lost or won. Perhaps not in the score, but by putting confidence in one team and taking it away from the other. Therefore, when you go into a game, go in and play the first five minutes with all your might, and you will find that as the game goes on your work will get easier and easier.

The first thing that a young player should learn to do is to take the right position in the line. He wants to take a position that is both comfortable and easy, that is, he does not want

to play his position a certain way because he has seen some one else do it that way. The position should be crouching, balancing on the toes, so that the opposing players cannot easily push him back or to the side. The head should be up in the air so that he can watch the player opposite. The back must be kept straight and stiff in order to have strength.

When a player once has good form in his position all he needs is the necessary "never say die" spirit in order to be a good player. In the old game the guard had a limited ground to cover, that is, the opening between himself and the center and also between himself and the tackle. But in the new game there is no special place for him to cover. Of course, he must above all else see that no gains are made through him, but he is just as responsible for plays around end and on the other side of the line.

To do these things a good guard has to break through the opposing line, and to break through that line he has to charge harder and faster than the men opposed to him, every time. This means a good deal, but practice in sprint starting will soon make you good at this. Above all else when charging, charge low. To charge high is the same as not charging at all because as soon as a player can get his body against yours it is the easiest thing in the world to stop you. Now when I say charge low, I do not mean

that you are to bury your head and go in blind. You have to keep your head up in order to see where the play is going. A good method of getting a low charge is to tie a string between two poles, from two to three feet (varying with the size of the player) and practise about ten minutes each day charging under the string.

Defensive Play

On the defense a good guard should play about a yard and a half from the center, and a little outside the man opposed to him. Watch the ball closely. As soon as it is snapped by the center, charge through if you are reasonably sure where the play is going. If you are not sure where it is going, stiff-arm the player opposite you and wait to see where the play is going before you make any false move.

It is easy to stiff-arm a player, for you know you can shift your hands much faster than you can your feet. When you stiff-arm a man you place your arms, with your hands outstretched, against his head or shoulders, and hold him in this way at arm's length. The whole use of this is that it gives you time to see the play, and at the same time keeps your opponent from pushing you back and thus keeping you out of the play.

On the offense a guard has a hard job. Don't think when the play is on the side opposite to

you that you have nothing to do. Your duty is to go through and get the secondary defense. When the play is through center, you must charge shoulder to shoulder with the center and tackle. When the play is on the tackle you must help your tackle get the opposing men out of the way.

On the kicks the guards do not have such hard work. If the kicker is slow they must check their man, but if fast, as DeWitt of Princeton, they check just for an instant and then go down the field with the ends and tackles. But they are nevertheless responsible for any man that gets through and blocks a kick, for a blocked kick is a bad thing, and often leads to the losing or winning of a game, as was the case in the Princeton-Harvard and Harvard-Dartmouth games of 1911. There is no excuse for the player who lets another block a kick, for the check of an instant is generally long enough to allow the kick to get off safely.

The Kicking Game

When your opponents call for a kick formation there are several things to remember. In the first place if the ball is in your opponent's territory it will generally be a kick, but if the ball is inside your forty or forty-five yard line you have to watch out for one of four things: 1, A fake play through the center; 2, A for-

ward pass; 3, A run around the end; 4, drop-kick.

When a kick formation is called, and the opponents take their positions, look to see if there is a man close up to the center, who is in a position to take the ball from center and charge through the line. If there is no one in this position a guard can shift out pretty far, but if there is a man there the guard must play in close and keep an eye on this man, and see that he does not take the ball and try to gain through the line.

A guard is directly responsible for all plays on center. You are not responsible for a forward pass, but you should try to block it. When you see them try a run around end, do not run directly for the man if he is trying to get around you, but run right straight across the field so that you will either meet him or drive him out of bounds before he has gained many yards.

My last admonition is, play hard, fast, and clean, and above all never give up, but have determination to win no matter how great the odds against you. This is the spirit that counts in football, and in no other game are more manliness and restraint required.



A SAVAGE ATTACK ON THE KICKER. FELTON'S ABILITY TO GET PUNTS AWAY WAS ONE OF THE REASON'S FOR HARVARD'S 20-0 VICTORY, HARVARD-YALE GAME, 1913.



FLYNN OF YALE PUNTING IN THE HARVARD-YALE GAME, 1912. PRESSURE BY HARVARD LINEMEN FORCED FLYNN TO KICK SHORT ON SEVERAL OCCASIONS AND GAVE HARVARD ITS FIRST CHANCE TO SCORE.



GUERNSEY OF YALE PUNTING IN HARVARD-YALE GAME, 1913. NOTE THE HARVARD LINEMEN JUMPING TO BLOCK THE BALL. THE KICKER IS WELL PROTECTED.



SHEPARD OF MAINE GETTING AWAY A 60-YARD PUNT IN HARVARD-MAINE GAME, 1912.

PUNTING

HOW TO PLAY TACKLE

BY EDWARD J. HART

To play the position of tackle well the young man must be fitted for the place. He must develop his legs, arms, and back because these parts are used often throughout a game. After this he should not neglect to practise quick starts, and so train his muscles to act instantly when called upon. After developing and strengthening the important parts and training the muscles for speed he should not neglect to gain as much endurance as possible, because, no matter how big his muscles may be or how much speed he has, if he doesn't have a fair amount of endurance he will be very much handicapped. One cannot develop a high degree of endurance if he abuses his body by smoking or other dissipation.

Remember that you have a head and a pair of arms and use them every second of the game. On the defense the tackle should never be afraid of playing too far away from his guard. He should take his position directly opposite his end or in fact a little to the outside. Right here I would like to impress upon the mind of the

did this they all said no. They wo
to the spectator to be playing direct
two opponents, but just as soon as tl
snapped they would instantly change
tion to the outside man, and either c
on to his help-mate or side-step him.

The great tackles who are noted
strength were masters at using th
These men often played men who we
powerful, but outplayed them bec
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The great players are constantly fig
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time, but just as soon as he has you
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Use Your Arms

After a young man feels that he can keep cool and use his head he must learn to use his arms. Just at the instant the ball is snapped he must shoot his arms at full length, and with every ounce of strength and speed, against the upper portion of his opponent's body, remembering at the same time to keep his legs as far away from him as possible. If his opponent gets under the player's arms so that he has him boxed, the one that is boxed should never try to force his opponent back by sheer strength but instead back away and get to the man with the ball at once. If the tackle tries to get out of the box in any other way he will only be wasting his time and energy. So be careful to see that your arms are on your opponent when the ball is snapped, and hold him off until you find out what course to take in order to get the man with the ball. One of the best ways to do this is as follows: if playing left tackle place your right hand on the side of your opponent's neck and place the left hand on his right arm around the triceps or under the arm-pit. If you get him in this position you can turn him in any direction you wish. As I said before, you must vary your attack or the opponent will be able to get under your arms. If you once get so you can use your arms well, you will find little trouble handling your rival.

ball with the ball sees
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tackle who uses his arms well, wi
get by the end and then charge in
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The tackle and end should work
with each other. They should wo
of signals independent of the team
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an extent that they will be a hard
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many a tackle gain a big reputation
had a good end helping him, and vic
the tackle runs up against a player
than his match, the clever end can
on the other hand, a clever tackle w
head and arms can stop plays fro
his end, thereby

no condition to carry out the above work successfully. By working together they can make each other's work very easy.

Play Hard

Play hard, keep cool, fall in love with your position; no matter how tired you are remember that your opponent is just as tired, and perhaps more so, and this is the time when you should charge against him harder than ever. Make him believe that you are as fresh as you were the moment you started.

On the offense, the tackle should play close to his guard. As a rule, on all plays inside of tackle he should help his guard and on all plays outside help the end. Of course, if the guard is able to handle his man alone the tackle can help the end. If the end can handle his man, the tackle can use his judgment and so play as to get the maximum efficiency out of both his partners and himself. On the offense the tackle should play as close to the ground as possible and charge with a terrific drive from his legs. Charge low and hard and never straighten up unless you have your opponent on your shoulders. The tackle who charges low, quick, and hard will be a hard player to defeat. Here again I would strongly advise the tackle to charge neither ahead nor behind his guard or end, they must be shoulder to shoulder or a

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that you have done well; ther
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ever lived learned something in
Work from the time the official blc
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TACKLE PLAY

BY LELAND S. DEVORE

THE key to successful football playing, as well as to any other athletic success, is largely experience. That which applies to a tackle is applicable in many ways to any man on a football team. To be a player who can hold his own in the game of to-day, it is necessary to have a thorough knowledge of the fundamentals, which can only be obtained by practice — by years of experience from boyhood up. No matter what class of team one plays on, the football sense is bound to come if the player has the energy and ambition to keep at it. He should benefit by the bad, as well as by the good plays; by his opponent's style of offense as well as defense. In a season of eight or nine games, by getting even one point from each opponent, a player's all-round ability should be strengthened.

There are " knacks " in all our games, but probably more at football than any other. The little fellow who knows how is of more service to his team than the big, lubberly man put in on account of his weight and strength. Brute

made to obtain material which will
to this standard.

When the freshmen come in in th
do not see all the " last year " m
over the runts, for in the end it is
spend two, three, or even four years
a big man into a 'varsity player tha
on a likely small man for a year or
last have to discard him, or keep hi
scrubs because of his lack of weight.
there are exceptions to this, but the
many.

The tackle, in the running game par
is the man upon whom most of the w
and for a team to make a successful
is up to him to make good. On the
both in line plunging and running the
must do effective work in opening h
making interference. The man with t
absolutely helpless without a

side. The reason that this work falls upon the tackle is that most line plays in the present game are "skin tackle," plays in which the back goes over the tackle or just outside. If the offensive tackle does not put his man clear out, the back would save himself a strenuous effort by yelling "Down!" He is helpless without his helpers.

The success of every team depends upon every man doing his assigned duty, for if one man out of the eleven shirks, the play is spoiled. When a hole is once made and the man carrying the ball safely through, the majority of players think they have done their share of the work, but they have not. It is up to them to be up and away, looking all the time for another man who may be dangerous to the success of a play; to keep hustling until the ball is down. Never stop for a horn when you hear it, unless you see the ball is down, but play harder than ever, for if it is a penalty against your opponents you may have your choice of a fifty-yard run or a five-yard gain for off-side play. But if you see that the ball is down, there is no use in your piling on, shoving, or pulling, because the ball will be brought back and the offending man will cause a penalty loss of five, ten, or fifteen yards to his team instead of gaining a measly yard or two.

When the ball is going over the opposite side of the line, the tackle has his hardest work to

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On the defensive, the tackle is the
nable man to his team, and he should
to understand that he is directly re
for all line plays and end runs on hi
the line. No interference has ever
vented that cannot be absolutely rui
tackle and his side partner, the end.
heavy end next to you, either can bre
interference and the other get the man,
a light end the tackle must scatter t
ference, and if possible, get the man
the ball. On seventy-f

player unless he has speed and muscle. In case of a forward pass the tackle is responsible for the man on the end of the opposing line who is eligible to receive it. He must get him out. Stay on the job and keep busy; do something every moment. Every play of every man should be clean and above reproach. No one should attempt to wantonly injure another, or let his temper interfere with his judgment or his gentlemanly action. The spirit of sport and friendly rivalry should be, and can be, fostered by manly aggressiveness.

A tackle's position on the offense is practically the same as the guard's. He should be facing the line squarely, with legs well under him, feet separated far enough to keep from being pushed sideways, with most of the weight on the feet, but both hands resting on the ground even with the near end of the ball, with sufficient weight on them to carry him forward when they are taken off the ground. The back should be straight and sloping slightly from the shoulders to the rear. Hold the head always erect. Play as close to the guard as is possible without impeding your movements. Have a complete set of signals with your guard so that you can work together successfully. Impress upon him that he is to help you put the opposing man out when you touch him on the hand; or that you will help him put his man in when you hit his arm or shoulder. This

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the line. Rest on one knee unti
starts his signals when you take
position. On kicks, hold until yo
has been kicked and not blocke
down the field.

In playing the tackle posit

right foot, and if you are playing right tackle you must take especial care that no one breaks through you. You are not only responsible for the player opposite you, but also for any one else who tries to get through your position and block the kick. But remember that your first responsibility is your immediate opponent. If you play left tackle there is little likelihood that an opposing player who is opposite you can reach a man kicking with his right foot. The punter naturally steps a bit to the right in kicking, and so away from any one breaking through on the left side of the line. Thus the left tackle has less responsibility in blocking in the case of a " right-footed " kicker. If you are playing that position you need worry only about your immediate opponent, and should endeavor to throw him back and off his balance so that you can be in a position to hustle down the field as soon as you know the punt is away safely. Do not depend upon the end to get the man who received the punt. The end may have been blocked and you have an almost equally good opportunity to make the tackle. Use your speed and follow the ball down. If it is caught, get the man. If it is fumbled, be on top of it. You have an especial responsibility if the punt has been short, for the ends have probably dashed farther down the field and are not in a position to stop the man who receives the ball. In this case the duty devolves upon the

should be on the legs. It is on
that a tackle has a chance to dis
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the time; efficiency in their use
success on the defensive.

his legs, and wrap them with all the strength you have. Keep your hands closed and thus save broken fingers. For the average player a point about the knees is the best place to aim for. A big man can do good tackling around the neck, but this takes weight and confidence in one's ability to hold. The tackle about the legs is more sure.

Never slow down before tackling, for the man going the slower will get the harder bump. Just before you get within tackling distance put all the power and energy you have into the last two or three steps before you meet the runner, and instead of having him fall forward and gaining two or three yards, you will throw him back for a loss. This tackle successfully played encourages every man on the team, puts ginger into his nerves, and makes him brace up ready and alert for any regular or surprise play which the opposition may uncover. It is catching, and every man on the team tries to do better than any other. This spirit, with team-work and friendly fighting, is what accomplishes things worth while and wins games.

In a few words, the work of a tackle consists in playing low and charging hard when on the offensive, and using the hands when on the defensive. Aggressiveness at all times is a winning quality, other things being equal. Quickness to diagnose a play is a very helpful element to success. When you have made up

your mind as to what is coming, or what is to be done, act quickly, and put forth all the power you have. Talk to the men near you, help them when you can, always be on the jump. Take advantage of every opportunity, profit by every misplay, and keep on the firing line, using every missile of science and strength, of skill and energy until a victory is won — or a creditable game lost.

IMPORTANCE OF THE END POSITION

BY STANFIELD WELLS

THERE are as many ways to play end as there are ends and football coaches. This means that there are scores of methods which a player on the line extremity may adopt with success, but it is likely that a close study of all these styles of play would bring out the fact that they are all about the same. The differences are small, and relate more to the detail of playing the position than to the general theory.

The differences are small, to be sure, but it is the little things that count in football as well as in anything else, and it therefore would be impossible for any person to say that this mode of playing end was the right one and that that one was all wrong. Every end has worked out some problem for himself in a satisfactory way; every good coach has some well-founded theory as to how an end should perform. These things, discovered by men who know football, cannot be disregarded. We should draw upon the knowledge and experience of others as far as possible, and then use our own judgment in

selecting the methods that seem best fitted to carry out the work at hand.

So it is impossible to lay down a set of rules for playing end. A few general suggestions can be given; the style of play will bring out new points to be mastered, and the game itself — the great training school — will do the rest.

The importance of the ends has increased greatly with the evolution of football. A dozen years ago, when the attack was made largely between tackle and tackle, the guards and tackles bore the brunt of it, while the backs were the ones who advanced the ball for the most part. End runs were used effectively, to be sure, but the mass play was the popular style of offense. While the ends had no chance to loaf, they were not made to bear the vast amount of work that is now placed upon their shoulders.

The forward pass and other forms of open attack have brought about the increase of labor for men who play at end. This work will keep on increasing as men who teach football determine more of the game's possibilities. Great steps have been made in the last few years toward changing football from the old give-and-take, almost brutal game that it once was. Offensive tactics have entirely changed and they will keep on changing as the game comes out of the experimental stage into which the great rule changes forced it. More and more



MAHAN OF HARVARD MAKING A LONG END RUN IN HARVARD-HOLY CROSS GAME, 1913. FOUR HOLY CROSS PLAYERS HAVE BEEN PUT OUT OF THE PLAY BY THE HARVARD INTERFERENCE, AND THE RUNNER IS GIVEN A SPLENDID OPENING.



THORPE OF CARLISLE STARTING ON A LONG END RUN IN HARVARD-CARLISLE GAME, 1911. NOTE INTERFERENCE GIVEN THE INDIAN PLAYER.



HARDWICK OF HARVARD MAKING A SUCCESSFUL END RUN IN HARVARD-YALE GAME, 1913. NOTE INTERFERENCE ON END, AND NUMBER OF YALE PLAYERS PUT OUT OF THE PLAY.

THE VALUE OF INTERFERENCE

will plays be used which are based on kicks or long passes, and all this open work will mean more for the men on the line extremities to master.

The end is the logical man to receive the ball on the forward pass. It is easier for him to break away from the mass of players and get down the field under the passed ball than it is for one of the backs, unless the back be shifted to a position on the line of scrimmage. It would be folly continually to send a man from behind the line to receive a forward pass, when the ends could be used for that purpose. It would take the back longer to work his way down the gridiron, and any one who knows football as it is played to-day knows that speed is the primary essential. Without snap and go no team can succeed, and in no place is rapid action needed more than in executing the forward pass. A fraction of a second's lagging will enable some opposing player to throw up his hand and block the pass. Then the passing side loses ground, which is not exactly the object of attacking. So it is that the end is the player who must bear the brunt of the work when forward passes are being used, and, as the forward pass promises to become more popular as the game progresses, it is reasonable to believe that the end is going to be called on for greater effort in years to come.

The same holds true of the plays based on

short kicks. It seems certain that coaches will devise methods of using the short kick. And here again it is the end who is called on to do the heavy end of the labor. It is no easy matter getting down under a low, short kick and downing the ball before the secondary defense of your opponents can turn the trick. It is almost impossible for a back to do this, and if the forwards are evenly matched it is also almost impossible for them to get through. So it is up to Mr. End again. He must be the busy one, work his way through and carry out the business end of this important style of attack.

If there is one piece of work which the end must place before all others it is getting down under punts. When his team boots the ball, it is up to the end to follow the pigskin just as fast as he possibly can. He should make it a point to exert every ounce of his strength to be right under that ball when it strikes the ground, for the effectiveness of punting depends to a great extent upon the ends. Those who have made no study of football are inclined to give too much credit to the man who kicks the ball when kicks result successfully. They do not take into consideration that the greatest punter in the world would be ineffective unless his kicking was backed up by the work of strong ends. Say, for instance, that the ball is punted forty yards and that when it comes to earth again there are none of the kicker's team-mates

near it. Then the defensive backs of the opposing team will gather up the ball and carry it back for twenty yards before they are downed. This punt resulted in taking the ball only twenty yards towards the opponents' goal. But suppose that the punt had gone only thirty yards and, at the same time, the ends went down under the ball and were able to stop the opposing player the instant he caught the oval. Then the kick would result in a thirty-yard gain although it was shorter by ten yards than the other.

I hope that these illustrations will go to show how important it is for ends to coöperate with the man who does the punting. When a punt is called, the end should prepare to fight with renewed vigor. He is in a hard position. In the first place it is absolutely necessary that he work his way through the opposing line, and of equal importance that he go in the right direction. Of course, signals will help warn the end in what direction the ball is to be kicked — to the right, left, or straight across the line of scrimmage. But it is imperative that the end should see that ball going. The best of punters will go wrong now and then and the man whose business it is to follow that ball cannot afford to run the risk of misjudging his direction. Keep your eye on the ball as much as is possible without impairing your progress and make up your mind that you are going to meet that ball

when it alights. Don't let anything stop you, because ground gained by punting is just as important as that gained by carrying the ball forward; in many cases it is of more importance. And the end is just as responsible for the success of punts as is the man whose boot sends the ball flying.

High school teams are inclined to overlook this important phase of football and the result is that the players are forced to learn it when they join the squads of larger institutions. It is difficult to teach an old dog new tricks and it is difficult to break young football players of bad habits. Learn to do these things as they should be done when you first commence to learn football and it will save you much time and effort when you get to the top of the ladder.

Those who have had the opportunity of working under a good coach will remember the continual cautioning against giving away plays. There are many ways in which the play to come may be betrayed to your opponents. The shifting of a foot, the turn of a head, a false start — any of these things and many more will give the opposing players a good idea of what is to come. And the end, being exposed to a closer and more comprehensive view from the other eleven, can give a play away quicker than any other man on the team. The end should drill himself to make no false moves, to always start from the same position, and not to start until

the ball has been passed. Some men can start from the right foot only and some can start better from their left foot. It makes no difference which foot you start from so long as you always use that foot. To change may divulge a secret and break up a play. Keep your head well down and your eyes always on the ball. Keep your nerves steady and learn to move when the ball moves and not before. Always crouch in the same position, move when you should move and you will not be the man to give away the attack of your eleven.

In newspaper accounts of big football games you will often read that one team outblocked the other, and when you read such a statement it is a safe guess that the team which put up the better exhibition of blocking was the team which carried off victory. Without a proper knowledge of blocking no man can expect to play football with any success, and a team made up of men who are ignorant of this phase of the game is beaten before it starts playing if it is matched against a team of good blockers. This art of running into a man and knocking him over looks to be easy; it also looks to be a small part of football. It is not easy and it is no small part of the game. Any man who has ever played on a college eleven will tell you that.

The end must do his share of the blocking, and his share is a big share. On end runs, he must knock opponents out of the way; on line

plays he must help open holes for the man with the ball.

To tell a person how to block is a difficult matter. It is something which should be vividly illustrated. Blocking in the line and blocking in the open are, of course, two distinct matters. The essential thing in both is to get your man first and get him low. If he is the quicker of the two your work will be ineffective; if you block high he will slip past you somehow if he amounts to much as a football player. In the line you must outcharge your opponent if you are to outplay him, and, once outcharged, you will have him at your mercy. You can open holes, then, by pushing him this way or that. In the open, however, the blocker faces an entirely different situation. He may be on the run just before he blocks an opponent. If such is the case, he should leave his feet and hurl himself at the other's legs. Many men block by diving. This is usually an effective method, but if a man can throw his body directly across the path of his opponent it is easy to see that the chances of causing a bad spill will be much better. In diving, your "blocking surface" as it might be called, is only the width of your shoulders, but when you throw yourself across another man's legs or knees, this surface consists of the whole length of your body.

Thus far, the duties of an end on offense have been discussed to the exclusion of anything else.

The work of a man on the extremity of the line does not lag when the others are in possession of the ball. Far from it. Then he has tackling and blocking and sprinting after passes and kicked balls to do just as he has those things to do on the offense.

Much has been written about tackling and there is little that any one can add to the fund of knowledge that every football player has on this phase of the game. With the open style of attack now in vogue, the ends have much tackling to do. End runs are used to a greater extent than they were a few years ago; the forward pass makes more tackling for the ends. Coaches used to urge their men to dive in tackling, but the new rules have made such tactics illegal. The tackle should always be low. You can do it without diving. Get a man around the knees, and he is going down, but if you grab his waist or shoulders he can drag you along for yards.

In earlier paragraphs we discussed the necessity of getting down the field under punts. If this necessity is clear, is it not also clear that it is imperative to keep your opposing end from getting under his own punts? That is one of the most important parts of the work of the defensive ends. Use every power at your command to keep that man from getting down under the ball. If he outgenerals you in this maneuver, your defensive backs will have little

or no chance of carrying the ball back. Knock him off his feet if you can do it legally. If you can't get him down, stay with him; keep your shoulder against his body and do your best to steer him away from that ball.

The ends, as well as all other players, should continually keep an eye out for balls passed by their opponents. Oftentimes the intercepting of a forward pass has turned the tide in a football game. In the Michigan-Minnesota game of 1909 Magidsohn grabbed a Gopher forward pass and could have almost walked to the goal line, so clear of players was the field before him. Just because he was on the lookout for passes, Michigan's score was increased by six points and the game cinched. But, as well as having an opportunity to actually gain ground after catching the enemy's pass, you can often prevent him from making long gains. In almost any big game you will see a defensive player literally snatch the ball from an opponent's hands and thereby prevent a tremendous gain.

The above consists merely of a few hints for those who are to play at end. As has been said, it is almost impossible to lay down any set rules for playing the position. Experience is the teacher of all teachers and a season of football will teach a player more than any coach can talk into him in three seasons.

As for the physique of an end: it makes little difference whether a man is big or little; as

long as he can "deliver the goods" no one will bother about his physical endowments. In general, big men are playing the ends nowadays. It is easier for a tall man to catch forward passes than it is for a short man. The bigger the man, the greater are the possibilities of making him a good blocker. In general, the big fellows have the advantage over the little ones in contests for the end positions. This does not mean that men of small stature have no chance of holding down such a job. There are small men playing at end now and they play a good game; but they are the exceptions. However, if you are small and want to play end, don't give up. Keep trying. This has won letters for many a football player.

The one thing that all boys who want to play football on big teams should do is to master the rudiments of the game as soon as possible. Many a man with the body and spirit of a football player has been kept out of the big game for a year, possibly two, and, sometimes never got in at all just because he had not started learning the little things early enough in life.

Football has ceased to be a game for mere brawn. It is a game for men who can think quickly and sanely; who can act as they think; who do not hesitate; in a word: for men who have clear heads and steady nerves. There is much to learn about football before you can play it well. Perhaps you think that training

consists in a couple of hours' work every afternoon. If so, you are mistaken. One of the most important parts of football training is the lecturing that every good coach gives his men. Long hours are spent in this manner and the fine points of attack and repulse are talked into the players just as in the classroom, the laws of mathematics and physics are pounded into the student. This goes to show that you cannot learn football in a week, a month, or a season. After you have played your three years of college football there is still a world of information that you have missed.

Just keep that in mind and then think of the hopelessness of trying to learn all the big things about football before you have mastered the little things. It is an impossibility. Years ago, coaches made star players in a season. They do it no longer. The boy who enters college with a knowledge of tackling, passing and catching the ball, and such matters will stand a far better chance of getting on the 'varsity squad his second year than will the man who knows little or nothing about these rudiments of the game.

Don't overdo. Don't try to play football with bigger and heavier boys until you have your growth. It will gain you nothing. Practise passing and catching the ball; learn how to tackle; learn to fall on a ball and secure it when it rolls on the ground. Learn to start

quickly and to charge low. Keep yourself in good physical trim. Do these things and you will have built a foundation that every football player must have.

HOW TO PLAY FULLBACK

BY JOHN P. DALTON

Necessity of Good Physical Condition

It is my purpose in this article to offer a few suggestions to the young man who is starting out on a football career and who has ambitions to play the fullback position. There are many points which he will very likely not be familiar with, and unless they are pointed out to him he will probably proceed blindly and with no thought of the rudimentary principles which are all-important in football.

Primarily, he must fit his body to withstand the strain imposed upon it, all of which is summed up in the word *training*. The result of failure to regard this necessity has been brought home to me on so many occasions that I unhesitatingly state that under no conditions would I permit a player who failed to observe training to engage either in practice or in games, because being untrained he is much more liable to injury, and such injuries received might mean the loss of a valuable player in later games.

In dealing with the body, a clean, healthy mind is absolutely essential since it is the mind which governs the actions of the body. One cannot afford to have a sluggish mind in the game of football, for it is the man who thinks quickly with judgment emanating from a clean mind who succeeds.

On the football field there is only one way to do things and that is the right way. Do everything with earnestness, exerting every effort to do it well.

A most requisite quality of the fullback is his ability to analyze the opponent's play and to act quickly in order to prevent its success. This can only be had by years of experience, but with close application and continued observation, watching the smallest points, such as facial expressions, unconscious shifting of positions by opposing players, it is very remarkable how proficient one may become in diagnosing plays. The fullback who studies this will in the majority of cases be prepared for the attack, and consequently his chances of stopping it are greatly increased.

On the defensive the fullback should occupy a position from four to eight yards behind the line of scrimmage, depending upon where the center plays. If the center plays well back from the line the fullback plays farther back; if the center plays close to the line the fullback should play closer accordingly. Whether cen-

ter and fullback play close up or back depends upon the ability of the center and whether the opponents are using a line-plunging or forward-passing game.

The fullback should stand fairly erect so that he can see the opponents' backfield and note their formations. He should vary his position relative to the opponents' formation, moving in a direction parallel to the direction of the opponents' shift. Be careful to realize that certain shifts are employed only as a ruse to weaken the defensive at designed point by removing fullback from backing up the line.

Follow the Ball

The fullback should constantly keep in mind the necessity of watching the ball from the moment it is put in play. If the location of the ball is doubtful, his duty is first to ascertain where it is or is most likely to be, and as soon as its direction, or rather the direction of the runner carrying the ball, is noted he must get quickly into position to meet the runner at the earliest possible moment. How to meet such plays most effectively is a question which rests entirely upon the physical make-up of the fullback and in fact upon the team as a whole. Should the fullback have a reliable rush-line capable of eliminating a greater portion of the runner's interference his work is compara-

tively easy and his duty is then to play for the runner alone. If, however, his line is weaker than that of the opponents' he must direct his efforts to meet the interference as a whole, which is a far greater tax upon his strength.

The fullback should not permit himself to be drawn back by any assumed punt formation; at least not until he is quite certain that the opponents will kick. In the first place his efficacy in handling punts is not a matter of particular importance since it is seldom that he would have such opportunity. The number of plays possible from the kick formation warrants his remaining near the scrimmage line. In this instance good judgment is a sheer necessity, for supposing the opponents have eight or ten yards to make on the third or fourth down it is almost certain that they will punt, if they are in their own territory and they have not been gaining consistently. In this case the fullback should drop back about ten or fifteen yards from his regular defensive position and endeavor to get into the interference for the "running back" of the punt.

The Art of Kicking

Ability to punt, place-kick, or drop-kick is one of the most valuable assets a fullback can possess. It takes years of practice and patience to develop one's eye and boot and to instill suf-

ficient self-confidence to kick successfully from behind the line of scrimmage. The young aspirant may labor along ignorantly and wonder why his efforts bring no apparent success. Men who have worked consistently with the kicking game for years may suddenly find themselves in a so-called "slump in kicking." From personal experience I have found that this is entirely due to the kicker's failure to keep in mind small details.

The holding of the ball just prior to the instant of kicking is perhaps the greatest secret in the art of kicking. If held properly it is most surprising how great a distance may be gotten with but comparatively little effort. On the whole the "spiral" is the most effective kick for distance but not always the most advantageous. A kicker must vary his kicks, considering the wind, the ability of the opponents to "run back kicks," and the territory in which he is playing. In saying this I presuppose that the player or kicker has ability to drop his kicks approximately where he wishes them to fall.

I would advise the lad who is desirous of learning how to kick to think and reason out the best way to kick the ball. Keep in mind the relative position of shoe and ball, the point of impact on both, and decide for yourself the relative merits of a short, choppy swing of the leg to meet the ball or a long "follow through" swing. I taught myself how to punt and believe



BRICKLEY KICKING ONE OF HIS FIVE SUCCESSFUL FIELD-GOALS IN THE HARVARD-YALE GAME, 1913. NOTE THE PERFECT PROTECTION GIVEN THE KICKER BY TEAM-MATES.



GUERNSEY SCORING FOR YALE BY A DROP-KICK, HARVARD-YALE GAME, 1913. NOTE THAT ALTHOUGH PROTECTION OF KICKER IS FAIR, THE BALL WAS NEARLY BLOCKED BY THE HARVARD RIGHT TACKLE.



THE FAKE KICK, TO PROTECT KICKER. HARVARD-YALE GAME, 1913. BRICKLEY DROPPED BACK AS IF TO TRY FOR A GOAL. BRADLEE WAS GIVEN THE BALL AND GAINED EIGHTEEN YARDS. ON THE NEXT PLAY BRICKLEY SCORED A FIELD GOAL.



any young fellow can do likewise with equal success if he follows the above general suggestions. Hard and fast rules for kicking cannot be laid down. If the aspirant has football sense he can reach conclusions for himself and in a short time marked improvement in his efforts will be noted.

Drop-kicking and place-kicking are seldom done equally well by the same kicker. Each requires an entirely different form of kicking and I would advise the beginner to take up one or the other, rather than both.

Place-kicking ability can be acquired by consistent practice with both kicker and holder using thought and foresight. Apparently it is a difficult matter to place-kick and most of us are inclined to feel discouraged at repeated failures. The first and most important phase of place-kicking is the time available to accomplish it. A fraction of a second must be thoroughly appreciated in order that the ball may be kicked clear of scrimmage before the defense can get within blocking distance. The kicker must cultivate confidence in his snapper-back and holder to such an extent that he should have his swing under way to meet the ball before it reaches the holder's hands.

Carrying the Ball

A fullback must be able, and know how, to carry the ball both in end running and through

the line. End running requires that the player carrying the ball be quick to pick his openings, ward off pending tackles, and primarily he must have ability to run and to know how to use his speed. In the majority of cases the fullback is not called upon to carry the ball on end plays. This has arisen from the fact that in the old style of games the fullback was used for plunging especially, and no dependence was placed upon his end-running possibilities. With the new game, however, the fullback must perform all the duties of a halfback. In fact, there is little to distinguish these two positions now.

It is difficult to lay down any ironclad rule as to how a fullback should carry the ball in line plays. In off-tackle plays, the ball may be safely carried in the ordinary side forearm position. Inside of tackle it is apparent that the danger of losing the ball increases. I believe that the safest way is to carry the ball with both arms across the front of the body, holding the ball by its ends and against the upper part of the abdomen. In running I suggest that the knees be carried up as far as possible, giving a sort of reciprocating motion, chest well forward and head erect. The greater momentum the fullback has on hitting the line the greater are the chances of success for the play.

Again I state that it is a difficult matter to lay down any set of rules which the beginner is

to follow. Football simply amounts to applying a little common sense to physical ability. If you don't use your brains in football you never will succeed at it or derive the pleasures which participation in the game holds in store.

It is a strenuous game and some of the lessons it teaches are dearly learned, but it is worth the while. Play "cleanly," no matter what the irritation is that may tempt you to play otherwise. Play to win, but, in defeat, accept your lot in the true spirit of sportsmanship.

THE PLAY OF THE BACKS

BY PERCY L. WENDELL

PROPERLY speaking, the term, backs, refers to the quarter-back, the two halfbacks, and the fullback. This article, however, will deal only with the three latter positions. These three backs, as we shall learn, are closely associated in everything that they do. On the offense they alternate in carrying the ball and in making interference for one another, while on the defense, at least two of them, and sometimes all three, are called upon to help the rush-line and at the same time cover forward passes.

First of all, a back should enter into his work with the proper spirit. Unless he is willing to subordinate his personal wishes to the general welfare of the team, and what is more, to do so heartily and enthusiastically, he cannot hope ever to be a great player, even though he have marked individual ability along every line of play. Team-play is the essence of successful football, and he who is looking first of all to his own interests will never make a "team" player.



APTAIN WENDELL OF HARVARD MAKING A GOOD GAIN IN HARVARD-DARTMOUTH GAME, 1912. WENDELL IS BOWLING OVER A WOULD-BE TACKLER IN CHARACTERISTIC STYLE.



ILSON OF YALE RUNNING BACK A KICK FOR 35 YARDS IN HARVARD-YALE GAME, 1913. WILSON HAS JUST REVERSED HIS FIELD AND THROWN HARVARD TACKLERS OFF THEIR BALANCE.

PLAY OF THE BACKS



A back who can run, kick, and pass is an ideal back, and although a back may not be able to learn to run well with the ball, the average back can learn to kick and pass. Backs should have enough practice in passing the ball to feel at home with it. They should learn to throw it with accuracy and speed. Every year sees an improvement in throwing the ball, which shows that it is practice that makes a player better able to throw it. To kick is difficult and takes much time and hard work, but a good kicker is a very valuable man, and time spent on learning to kick is time well spent.

Carrying the ball is the main function of the backs, of course, hence the need of knowing the way to hold the ball. For end runs, one end of the ball should be tucked under the arm — not too far under so that it can be knocked out — while the other end should be firmly grasped and covered with the hand. In bucking, the ball should be held against the stomach with a hand on each end. After the line has been pierced either hand may be taken off to ward away the tackler. The grip on the ball should always be firm, yet it is often well to shift it from one side to the other so that the arm toward the opponent may be free. Use both hands to shift the ball, always holding it firmly.

To interfere is, in the new game, a big factor. To tell a back how to do this is very difficult. It is well to throw yourself at the opponent's

knees with all the power you can muster. This method is effective if the opponent is advancing or standing still. If he is retreating, as an end should do at times, the back is in a difficult position, and the only thing to do is to keep him going and not let him pass by on either side. The essentials of good interfering are to keep low, go hard, and be fierce.

No back can be effective who does not start quickly. An offense which is so slow in reaching its objective as to allow a concentration of opponents at that spot before the play hits is worthless. The attack must be quick and hard. For this reason backs should constantly practise getting off quickly. The "sprint start" position with only one hand on the ground — and that only sufficiently to steady the runner — is a very good way to start. In general, backs should exercise extreme care to prevent unevenness in starting. A slow man may spoil the entire backfield.

The work of a back is very tiring under the new rules, and therefore he must be in good condition — full of life and vigor and light on his feet. The offensive position of the backs will depend upon the style of game that is adopted. The possibilities of formations are never ending. Whatever the system, the backs should always assume the same relative position to each other, precision being absolutely necessary to well-developed team work.

Furthermore, this position should be assumed as soon as possible after the ball is down. When in position just previous to starting, the backs should take every precaution to prevent giving away the direction of the play by unconscious glances, movements, or "leanings." A back should, however, key himself up internally just before starting and go off with a plunge and keep "digging," never letting up an instant for anything.

The Offense

In end running, a back should be careful not to run too close to his interference when, in case the interference is upset, he is likely to fall over his protectors. Instead, he should run with an interval of not less than two yards between himself and his interference, thus giving himself a chance to see where they are going, and to take instant advantage of any upset.

In plunging, one of the very important points to be kept in mind is that of keeping the eyes open. A back who closes his eyes as he makes his plunge is likely to fall flat on his face when an opening in the line presents itself suddenly where he had expected to find the passage choked. A back should never allow himself to slow up on reaching the line. Strike it at maximum speed. It is well for a back to crouch in bucking, or, perhaps better to double up, ma-

king himself a plough with head and shoulders as the point. Worm yourself along, turning the body from the waist up, but keeping the rest of the body aiming straight ahead or the power of your attack will be lost. Lift the knees well up and try to prevent the tackler from getting his arm into your waist by blocking it with your knees. The minute a back is through the line he should open up a little, if an opponent is not right on him, and look for an open place, in the meantime warding off players with his shoulder or straight arm. On approaching the line keep the back stiff so that the opponents will be driven back; thus they cannot straighten the back up. Just because a player has his hands on a back, the back should not slow up, but should keep on digging, and if caught should force himself forward when falling.

In case a back feels any doubt about the signal for a play he should at once call out "Signal!" Otherwise, collisions, fumbles, and confusion will result. No matter what a back thinks, he should invariably carry out the signal, appearing to have absolute confidence in the quarter-back.

Another rule which should invariably be followed is that of never running back — a back should never lose ground. If a back fumbles he should fall on the ball at once, never attempting to pick it up unless it bounces high. A back is responsible for a ball if it comes to him well,

and he should always remember that the possession of it is of the first importance.

It is the halfback's duty to afford proper protection to his kicker. He should always be reliable in getting any particular opponent who may be assigned to him out of the play.

In the midst of play, whether on the defense or offense, the backs should seek to encourage each other by a word, a touch or a look. Such simple though effective aids to thorough harmony between them should never be overlooked. A hearty word of confidence spoken immediately after a bad fumble or other blunder will always cause the unfortunate player to put new life and determination into his work, while a bit of cutting sarcasm will drive him to anger or else dishearten him.

Under the new rules the backs on the defense hold an important and difficult position. They have to be in two places at once. They are responsible for men who break through the line and must stop them before they make a substantial gain, and they are responsible for all forward passes. The defensive back must be awake. He should keep his eye on the ball and advance as he sees the opposing back charge into the line. He must be careful not to commit himself too soon. When the opposing back has practically hit the line, the defensive back should immediately advance with more speed, but not so fast that the back with the ball will

be able to dodge him if he breaks through the defensive line.

The Defense

In general, the position of the defensive back should be between his tackle and end, and about seven or eight yards back of the line of scrimmage. He should vary his position so the opposing quarter will not know where to find him or where he is going to be. The fullback as a rule plays two yards or so in back of the line of scrimmage, but the formations on the defense, like the formations on the offense, vary and are unlimited in number.

In the backfield, the main duty of the back is the handling of kicks, and it is one of the most trying functions of all in football. Under the new rules, however, a back can let the ball fall to the ground and then pick it up or call it down as he chooses. In this the new rules take away a big and difficult factor of the game. It means also that only one back need be kept back whatever the conditions may be.

When the ball is picked up or caught the back must pay attention to the opposing ends the moment he has the ball. He should not, however, take his eyes off the ball until he has it in his hands, and in watching the ball as it comes down, the back can tell to some extent how it will bounce, especially if it is a spiral.

In dodging, a back should dodge as little and as quickly as possible. It is no game to stop and then start again, or to run zigzag down the field. The back must run as straight as possible and make his dodges at as high a speed as possible. It is not wise to run slowly so that a dodge is easier; always run at top speed whatever the situation and slow down here and there to side-step or fool the tackler. It is often well to slow down and then sprint away again, but this is only good when one tackler is attempting to tackle the back. Good dodging is not complete unless there is added to it the power to use the arms well. A back should never run back.

HOW TO PLAY HALFBACK

BY JAMES THORPE

In order to fill the position of halfback satisfactorily the player must be heavy-set, and of medium weight. The large player is, of course, in demand, but activity, strength, and speed are prime requisites for success as a halfback. The backfield candidate must be closely knit so that he can stand the knocks, should be quick to think and act, and above all, fearless. The back, more than any other player, must be thoroughly drilled in the rudiments of the game. He must be especially adept at handling and falling on the ball, interfering, tackling, punting, and catching punts. To be a successful ground-gainer requires cleverness in dodging opposing tacklers and skill in the use of the stiff-arm.

The halfback's position, when his team is in possession of the ball, will vary according to the formation used. Ordinarily his place is from four to five yards back of the scrimmage line, and a good arm's length from the fullback, who stands behind the center. A back on the offensive should stand with his feet about two feet apart, and with one, or better still with

both hands on the ground, with his head up and with no part of his body higher than his head and shoulders. The feet should be about even with each other. While playing halfback the foot nearest the fullback may be a little back of the outside foot, bringing the player into the position of a runner upon his mark, except that his legs are farther apart. The halfback's weight should be borne equally by his feet and hands. If the player places himself upon a two-foot square, his feet planted upon the rear corners and his hands resting upon the forward corners, with his shoulders almost directly over his hands and his knees almost touching his elbows, he will find himself in the proper position. Thus he may start quickly forward, or to the right or left. This position or style of the offensive backs was first introduced by the Indians when they defeated Columbia University 45 to 0 on Thanksgiving Day, 1899, and has since been adopted by every team of prominence in the country.

When in position the back should watch the ball, and start the instant it is snapped or the starting signal given. If he is to take it outside of tackle, he should receive it upon the run, and quickly place it under the arm which is farthest away from the greatest number of his opponents, so that he can use the other arm to ward off tacklers. One end of the ball should be placed between the arm and body with the hand

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swing the legs and body as far from the tackler as possible. When tackled, the runner should, if possible, fall toward the opponents' goal and work his way forward until held or the whistle is blown.

A back must remember that his part in nearly every play when another carries the ball is just as important as when he himself carries it. Some backs are inclined to run hard when they carry the ball, and rest up or make a feeble effort when some one else is trying to advance it. Such a player should not be tolerated on any team. Blocking and interfering are fully as much of a back's duties, and as valuable a part, as carrying the ball.

The Defensive Halfback

On defense the positions and duties of backs vary under different systems of play. In one system of defense quite generally used the halfbacks are stationed about three yards back of the scrimmage line, and just outside the tackles. Another style of defense places the halfbacks about five yards outside of the tackles and about two or three yards back from the line. In both systems the backs move to the right or left if the opponents use a side formation. In the first system the halfbacks are supposed to back up the line and guard against all running plays of the opponents, while the fullback

watches for forward passes. The halfback in the other style of play looks out for kicks and passes as well as other plays, being in an especially good position to stop end runs or plays outside of tackle.

The defensive backs should all stand with their feet about two feet apart and their hands upon their knees so as to be able to start quickly in any direction. They should watch the opposing backs closely, and if they form on one side of the line notify the rest of their team as the linemen are watching the ball and may not notice the formation of the opposing backs. The defensive backs shift with the opposite offensive formation so as always to be in the same relative position to the center of the offensive strength of their opponents, no matter where the ball may be. The backs should watch the heads of the opposing backs because their heads will be the first part to move and indicate the direction of the play. If the play is aimed at the line, it should be met hard and low. If there is a hole opened for the runners, do not wait for the play to come through but dive into the opening and nail the runner, or spill the man in front of him before he has reached the line. Every play should be quickly headed off whether going forward, back or around the opposite end.

Hard-tackling defensive backs, who get into every play, are a most powerful factor in any team's defense. On the best teams the backs

are chosen as much for their defensive ability as for their skill in carrying the ball and interfering.

Kicking is naturally part of the duties of a finished back. Almost any player can acquire accuracy and fairly good distance in punting by practice and study. Care should be taken not to practise too much early in the season, as the leg is liable to become sore and lame for the rest of the season. This occurs for the same reason that a ball-player's arm goes wrong, and it is no easy matter to get the leg in shape again when straining or overdoing has once injured it. The spiral punt, which is now universally used because a ball kicked in this way goes farther, can with practice be punted just as accurately, and is much harder to catch. In order to get the necessary distance, and punt the spiral with accuracy, some practice should be devoted to it every day and great attention should be paid to form. It is correct form to hold the ball as far away from the body as possible, directly in front of the kicking foot, with one hand on each side of it and the outer point of the ball slightly lower than the end nearest the body, at the same time taking a short step forward with the kicking foot. Then take a regular step with the other foot, drop the ball so that it falls without turning, and meet it with the instep of the kicking foot about two and one-half feet from the ground. The foot should

be extended, and the leg should swing mostly from the hip and but little at the knee. The punt should be followed through with the leg as far as possible with the body bent backward so as to get the full weight into the kick.

Kicking Goals

The place-kick is used in several different ways: for goal-kicking after touchdowns and fair catches, for kicking goals from the field from scrimmage formation, and in kicking off. The place-kick from scrimmage formation is easier to develop than the drop-kick, can be gotten off quicker and, in my opinion, is more accurate and better suited to kicking field goals. The player who is to receive the ball should kneel on his left knee about seven or eight yards from the center, and facing to the left, that is if the holder is right-handed and the kicker uses his right foot. The holder should mark the spot on the ground where he intends to place the ball to enable the kicker to get his aim and position. Upon receiving the ball he should quickly place it upon the spot he has marked. Receiving and placing the ball is an important part in place-kicking from scrimmage and must be practised fully as much as the kick itself. The kicker should not kick any harder than is necessary to get the ball over the bar. When placed the ball should be in a perpendicular position.

In judging punts the catcher should always have in mind the direction and velocity of the wind and the effect it will have upon the ball. He should regulate his position and distance from the kicker with this and the ability of the opposing punter in mind. Any player of good common sense would remember this, but there is another thing to consider which few players remember in judging punts. This is the effect of the air upon the course of the ball, and especially its effect upon spiral punts. There are two kinds of spirals commonly punted: one where the long axis upon which the ball revolves maintains the same relative position with regard to the ground throughout its course; the other where the axis gradually varies its position and follows the course of the ball, keeping its front end always pointed in the direction in which it is going, like the head of an arrow.

The two kinds of punts or spirals travel through the first half of their course practically alike, and it is only in the last half, or after the ball begins to descend, when the difference in their position with reference to their course becomes apparent, and causes the air resistance to affect them differently. The ball which keeps the front end pointed in the direction of its flight will carry farther, because of less resistance to the air. But this is not the only reason. The ball in descending will tend to fall in the

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ing their backs to catch punts by forming a sort of a pocket with their arms, body, and the thigh of one leg, into which the ball is supposed to fall and be held by the arms. I believe this method is not the best form, and that very few players catch punts that way, even when coached to do so. My observation and experience have convinced me that the best, simplest, and surest method of catching punts, is simply to pin the ball to the body with the hands the instant it lands there. The hands should be extended towards the ball as it is descending, so as to come down to the body with the ball, and no attempt should be made to catch the ball with the hands alone, except in cases where the ball has to be caught very close to the ground, or above the head.

An important fact to remember in catching punts is that the eyes should not leave the ball an instant until it is caught. Many punts are fumbled because players take their eyes off the ball an instant to see where the opposing ends are and in what direction to run, and this habit usually proves disastrous. While watching the ball descend the catcher can usually see out of the corner of his eye where his opponents are, and in what direction to run or have a better start. Whether he can or not, the catching of the ball is the all-important matter to attend to first, the running of it back being an after consideration. The punt having been caught, un-

less it is a fair catch, the ball should be quickly placed under the arm, and the player should start quickly and at top speed towards the opponents' goal. Let no time be lost in looking for an opening or in dodging back and forth across the field.

Usually the best plan is to shoot straight ahead. Dodging back and forth looks pretty, and eluding several tacklers may create some enthusiasm among the spectators who know little about the game, but the opposing forces are gathering all the time, and such tactics usually result in no gain or a loss. The player is not raised any in the estimation of the coach, or of those who understand and appreciate good football.

Tackling

No player should hope to be placed upon a team unless he is a good tackler. This is one of the most important rudiments of the game which every player should thoroughly master. It tests a player's nerve more than anything else he has to do, and a sure, fearless tackler is valuable to any team, no matter what his other qualifications may be. Innumerable games have been saved by a well-executed desperate leap at an opponent speeding for the coveted goal. Practice, head-work, and nerve are necessary in acquiring ability in this im-

portant feature of football. Different methods of tackling should be used for different situations, and these should be practised and thoroughly mastered. A man coming straight at a tackler should be met squarely with the shoulders just above the knees. The tackler should drive his body forward by straightening his legs, keeping his feet on the ground. His straight body and legs present a solid brace which the momentum of the oncoming player cannot topple over. If correctly met, the momentum of the man tackled, thus meeting a solid brace, will lift him off his feet, and the tackler can carry him back to the ground with his shoulders in the pit of his stomach.

While this is the ideal way to meet an oncoming man with the ball, it more often happens that the runner will try to pass to the right or left, and therefore a player should be able to take with equal ease a runner passing either to the right or left of him. The correct method of tackling in such cases is not to depend upon the shoulder, but more upon the body. The player, with all the power and speed possible, should shoot his body across the path of the runner, grasping both legs and pinning them tightly to his breast. It is well to go farther than it seems necessary, because the runner may partly hold the tackler back by his free arm and at the same time try to get his legs farther away from him. If he tackles from the side by

the shoulder, unless he knocks the runner over, the tackler will only have his arms to stop him with, and often the runner can free himself and continue his course. Some players have the fault of grasping one leg in each arm, while the correct method is to pin both legs firmly together with the arms locked. A tackler should remember that, as a rule, a hard tackle hurts the opponent more than it does the tackler, and when met fiercely a few times a runner is inclined to slow up and try to save himself. On the other hand, if the tackler shows signs of fear, or weakens, the runner will come at him more fiercely each time.

In practising tackling, it is well to keep the hands closed so as to learn to depend upon the body and arms. It is too often the case that tacklers depend upon securing a grasp upon the runner's clothes or legs with their hands. It is better to reach too far, in intercepting a runner, than not far enough, because some part of the body will then bring the runner down. Nine times out of ten a tackler who runs up to the runner and attempts to grab him without using the low, crouching attack will be warded off by the stiff arm. The low crouch and the hard leg drive are necessary to enable the tackler to get under and break down the runner's guard. Tackling is a knack easily acquired by some players and difficult to learn for others, but when once learned it is never forgotten. No

team can make many long runs or run up a large score against a team whose men are all good tacklers, and nervy, no matter how much they may be outclassed.

BY EDWARD W. MAHAI

EVERY punter will have his own
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first place he makes a good target



E. W. MAHAN OF HARVARD PUNTING.

offer a larger surface on the instep for striking the ball. Finally, the tall man meets the ball with his foot a matter of a few inches higher from the ground than does the short man, and these few inches count immensely when aggressive linemen are continually pressing the kicker.

The distance which the punter should retreat from the line of scrimmage when he is about to kick should be determined by the circumstances. At the beginning of a game he should stand fully ten yards behind the ball. It is dangerous to go back farther than ten yards since this gives the opposing ends a straight course towards the punter's foot. After the first few punts the kicker should know if he is being pressed by his opponents and if his kicks are in danger of being blocked. If the opposing linemen are not aggressive and do not threaten to block a kick, the punter need not retreat so far back of the line of scrimmage. Eight or nine yards will suffice in this case, but it is not advisable to approach nearer than eight yards. If he is kicking from behind a balanced line, when there are three men on each side of the center, he should stand directly behind the center. But if the line is unbalanced he should take up a position behind the man in the center of the line. If there are four men on the right side of the center and two on the left he should stand behind the player on the right-hand side

of the center, who under ordinary conditions would be the right guard.

Three of the members of the backfield form protection for the kicker, two on the side of his kicking foot and one on the other side. The two backs on the side of the punter's foot stand in line directly behind the guard on that side. When the play is about to start, the first back should be at arm's length from the guard and the second at arm's length from the first. From these positions they may run the ball through any part of the line or around the ends. The formation is especially strong for line plays. When the ball is snapped back for a kick these men immediately break back about three yards each so that one is back about seven yards and the other directly in front of him. It is essential for these men to stand one behind the other and close together, shoulder to shoulder. Their feet should be on a straight line and their bodies turned towards the side-line. If the punter kicks with his right foot the line of scrimmage should be on their left. They should be in a crouching position ready to spring. From this position they can get the use of the full length of their bodies in blocking. Usually the tackle and end on the side of the kicker's foot are the dangerous men. It is always well to force them to go on the outside of the kicker. The protectors should be careful not to let either of these men get between them. They must keep close

together until they believe that the kicker is on the point of kicking the ball, then they may break, if necessary, and each ward off an opponent. They must use their own judgment as to which are the most dangerous men.

The quarter-back alone forms protection on the side away from the kicker's foot. When the ball is snapped he is either behind the snapper-back or four yards back of the guard. If he is in position behind the center he can receive the ball from that player and feed it to one of the backs or run with it himself. When the ball is snapped for a kick he must wheel and run back to meet any opponent who might sift through the line. He also must not let the tackle or end get inside him. His method of blocking is similar to that used by the other two backs.

The kicker should stand with his weight evenly distributed on both feet so as to be ready to jump in front of the ball if he should get a poor pass. He should tell his center just how and where he likes to receive the ball and insist upon getting the ball just as he likes. Never reach for a wide pass, always jump out in front of it.

Some kickers stand with their kicking foot forward and other foot back, others take this step back just as the ball is about to reach them. The object of this is to get a good drive when stepping forward to kick. The next thing to be

considered is the catching of the ball from the center. It should be caught as near the height from which it is to be kicked as possible. The ball may be caught at arm's length with the arms stiff. This is commonly called "fighting the ball." The surest way is to meet the ball at arm's length and to give with it until it strikes the body. Next the ball is shoved out in front. All this time it is being revolved so that it will be in the proper position to drop to the foot. Most kickers have a habit of placing the ball so that the lacing is on the top or a little to the outside. A good football will go just as well if kicked on the lacing, and twisting the ball about in the hands takes time. Little time should be spent in catching the ball on the pass from the center and in placing it in position to be kicked, as every fraction of a second counts. The ideal way to punt is to kick the ball out of the hands, but very few are able to do this. At least the ball should be allowed to drop the shortest distance possible from the hands to the foot, since this is where most of the kicks go wrong. The slightest twist of the ball in its passage from the hands to the foot may be just enough to spoil the kick.

Some kickers like to meet the ball high up on the instep, while others prefer to meet it on the instep nearer to the toes. The ball should be struck with the instep just a trifle on the outside of the foot. There are two ways of drop-

ping the ball on the instep. One is to drop it so it falls diagonally across the foot, and the other is to drop it so that its long axis points straight ahead. When the ball is dropped diagonally across the foot the kicker must kick straight ahead. Meeting the ball in this way gives it a peculiar spiral twist. When the ball is held so that its axis points straight ahead the kicker must swing his foot across the ball to give it the spiral twist. The foot hits the ball on the bottom and cuts it, causing it to revolve.

After the kicker has learned to place the ball on the foot properly and to kick it accurately there is a snap of the leg which he should learn. This snap permits the kicker to kick without much exertion and send the ball a good distance. When the kicking leg is started forward to kick the ball it should not be held stiff, but just a trifle bent. Just as the ball meets the foot the leg should be snapped so as to straighten it out. This snap sends the ball farther than the power of the leg would be able to do.

High kicks are harder to catch than low ones and the punter should bear this in mind. He should learn just how far his ends can run down the field to cover kicks and he should kick accordingly. If they are slow he should kick high. If they are fast he should still kick high, but he may get more distance into it. He should learn to place the ball down the field

accurately. This can be accomplished by trying to place the ball out of bounds at a certain point. Keep the spot at which you are aiming in mind, but keep the eye on the ball.

The passing and catching of the ball as explained above also apply in drop-kicking. The first difference comes in placing the ball in the hands. It is best to get a low pass from the center so that no time is lost in pulling the ball down. The center should aim at a spot just above the right knee, provided the kicker is to kick with his right foot. The long axis of the ball must be held so that it is perpendicular to the ground. The right hand should be held on the back of the ball and the left hand on the side so as to guide it. Better results can probably be obtained by tilting the ball slightly back in dropping it.

The kick may be described as a quick shove. The toe is slightly pointed up and held rigid. Such a shove will send the ball over the bar from the thirty-five-yard mark. The kicker should practise kicking inside the twenty-five-yard line and should practise from all angles. He should above all things keep the goal-posts in mind and his eye on the ball.

The place-kick also is more or less of a shove. The foot is held much the same as in drop-kicking. Here again the main rule to be remembered is to keep the goal-posts in mind and the eye on the ball.

FOLLOWING THE BALL

BY SANFORD B. WHITE

EACH year, early in September, the candidates for the various elevens report, the coaches gather from various parts of the country, and everything is put in readiness for the coming season's work. The first few "work-outs" are of a very light order, for the summer's rest and vacation have left the men in poor condition, but during these first practices the men are taught the rudiments of the game, preparatory to their harder work later in the season. The rules are carefully gone over and discussed, a few simple plays are rehearsed, and some of the fundamental principles hammered into the minds of the men. Of these elements none is more important, to my mind, than the one I have chosen for my subject, "Following the Ball."

Suppose we happen down some day early in October to see the men in one of their regular afternoon work-outs. We will choose any of the larger colleges, for it matters little which one we pick, as the practices are nearly all the same. The men report rather late in the day

in order to escape the noon heat, so about four o'clock we see players come straggling on the field. Usually there has been a preliminary meeting held in the club-house, where the rules and various plays have been discussed, but we need not bother any more about that side of the work, but go, instead, right out on the field with the men themselves where we can hear and see everything. In one part of the field the candidates are practising falling on the ball, perhaps at the other end the men are tackling the dummy, while the linemen can be seen working on the pushing-machine. All sorts of kicking will be tried, the punters are perfecting their long, high spirals, seeking to gain speed and direction in each kick; the place-kickers and drop-kickers, upon whose ability so much rests in the modern game of football, are peppering the goal-posts, striving in their work to gain the finish and perfection which late in the season may mean so much towards a victory or perhaps even a championship.

In all this elementary work the coaches have been giving advice and supervision, but now, after an hour's practice of this sort of work, the men are called together and various teams picked out for signal drill. In this later practice the individual playing is developed with the one aim of welding all eleven parts into a machine, and as we follow the men up and down the field oftentimes we'll hear some coach call

out, " Follow the ball." Can any better advice be given to any man who is trying to make good on a college team, or on any football team in fact? I surely know of none. Just think for a minute what those three words mean. If you follow the ball you follow the man who is carrying the ball, that is, when you are on the defensive. So you are always " Johnny on the Spot," so to speak, and in a position where you can do the most good.

Let us look into the thing a little closer and see the possibilities a man may have who plays with that one idea of keeping his eye glued on the ball. As we all know, there are two kinds of football, the offensive and the defensive game, and while this advice applies to both games it is more applicable to the defensive game.

The linemen in the attacking game are not in the position to follow the ball as well as some of the other men, for they are usually making holes for the play to be run through, pushing aside the opposing men, or boxing them in. But in every play they should know where the play is going and, when their work is done, " cut through " and get around the ball, forming interference for the runner. The backfield men, however, can, and should follow the ball unless they are sent in some direction different from that of the attacking point in hopes of deceiving their opponents. In this modern game where

pushing and pulling is forbidden they should constantly be on the watch for fumbles. There are bound to be fumbles in football, that is one small part of the sport which makes it the interesting game it is, and sometimes with these fumbles goes a victory. If every man is on the watch for just such an occurrence, is following it, and ready to fall on that ball, how much better chance there is for a recovery by one of the players on whose side the fumble was made! Then there are kicks, kicks of all sorts, from which any circumstance may arise offering a chance to the man who is following the ball. A kick may be blocked and an alert man may recover it or tackle his opponent who has picked it up and is on his way to a touchdown. This very sort of play occurred in one of the big games in 1911 when Huntington of Harvard had broken through, blocked a kick, and was on his way to a score when tackled by Pendleton, captain of the Princeton team the next year. This one player's vigilance and watchfulness saved the game, for had Pendleton not followed the ball Huntington would in all probability have scored.

On punts is a place where a man can prove his worth in following the ball. Perhaps the ball is dropped or fumbled by the man playing back, and it's anybody's ball. If the ends and the tackles are down the field and under that ball, why haven't they an even chance to fall on

it and gain that much ground for their team? A play of this sort may change the whole game, it forces the fighting so much nearer the enemies' goal line, sometimes puts the team in a position to score a drop-kick or placement kick, and then again in some cases there is the possibility that the ball may be picked up and the man make the score himself. In any of these cases one thing is necessary, the man must be on hand and he must follow the ball. We are not so apt to think of this recovered fumble as a gain of forty yards, assuming that the punt has gone that distance, but how does it differ so much from the gain of the dashing halfback who has skirted an end for a run of that length? It is not as spectacular from a spectator's point of view but it really makes no difference how the gain is made so long as it is made. They both amount to the same thing, both are an advance of forty yards towards the touchdown and the score, and that's precisely what those eleven men are striving and working for.

In turning to the defensive play we see even greater chances offered to the team, all of whose eleven men follow the ball. In this style of play every man on the defense is in a position to watch the ball and to follow it. It is where the ball goes that the play goes; of course there are forward passes which must be guarded against, but by following the ball a

team will win out in the end. There are all sorts of attack, and one very common is to shoot the first man in the tandem in a cross-buck, fake the pass to him to draw the defense towards him, but in reality run the second or third man straight through the line. Now if each man is awake and follows that ball, how can he be "sucked in," as they call it in football terms? Plays of this nature are constantly met and it's the man who keeps his eyes open, and tracks after that ball, who nine times out of ten stops the play, and prevents the gain. Then there are fumbles to be gotten, as in the offensive game, only in this case a fumbled ball gained means more than the recovered ball. It puts a team on the offense at once and sometimes may result in a score. Big games have been won indirectly by the watchfulness of one man, whose getting a fumbled ball, insignificant in itself, was the real cause of the victory. It all resulted from his following the ball. Then there are "series plays," where a man may be caught sound asleep by watching his opponent, but had he been alert and watching the ball instead of the man he would have been ready for the play in place of being caught off his guard. There are all the chances in the kicking game which I have mentioned in the outline of offensive playing, only in this case the chances are even greater to those who are playing with the idea of following the ball. There are wrong

signals, crossed signals, bad passes, and many other plays constantly offering chances to the wide-awake man so that by his own work and by his ever readiness to grab that ball he may not only stave off a score and defeat but score a victory by his own watchfulness.

It matters very little whether your team is playing on the offense or the defense. You should know every second just exactly where the ball is, and at the same time should be trying to figure out where it will go. It is the team that plans or the player who plans that achieves success in playing the game. If your own team has the ball, of course the signal will tell you where it is going. But the signal does not tell you whether the ball is to be fumbled. Be ready for that. Let us suppose the ball is not in play. It lies on the ground between the two opposing teams; your center's hands are on its cover. From the moment the signal is called, do not let your eyes wander from that ball if you can help it. See it when the center passes it to the quarter; see it till the play starts; see it as long as you can, and if it happens the play is going around the end of the line opposite to that you are playing on, you can keep it in view until it is downed.

If you are watching, if you are ready, and the quarter fumbles the ball, you have the best chance of anybody to recover it, because you have been thinking about that very thing and

are prepared to dive for it the minute it escapes your team-mate's grasp. It is this readiness that counts.

But do not let your eyes do all the work. There is some left for your hands and legs and for all your body. Follow the ball with your eyes, but follow it with the rest of you as well. If a ball is fumbled a hundred feet from you, the fact that you see it roll on the grass will do little good. But if you are right there, watchful, ready to dive for it, that fact may mean just the difference between defeat and victory in an important game.

If you are on the defensive, it is equally important to follow the ball with eye and body. The end or half or tackle who knows every play is more valuable to his team than the best tackler in the world who loses track of the play, if only for an instant. Do not let that ball elude you for the tenth part of a second, for that infinitesimal bit of time may give your opponents' play just the start it needs to make a big gain. If you know just who has the ball and which way he is running, no trick play can deceive you.

Of course, every player and every team is eager for victory. It would be a very poor player and a very poor sportsman who went into a game not caring whether his team lost or won. If you really want to win, you must be willing to work and develop your skill, and the

collective skill of your team. There is physical hard work about football, and there is mental hard work; not the least of which is watching the ball and trying to figure out what your opponents are going to do with it. It demands close attention; it demands that your thoughts do not wander to the crowds, or to the man you are playing against, or to anything but just that pigskin ball and where it is going to go. As soon as it starts get near it. Stay near it until it is downed. Maybe you cannot make the tackle, maybe you cannot seize the ball if it is dropped, but you may be able to make it possible for a team-mate to tackle by breaking the interference, or you may be the means of allowing one of your own men to seize the ball by tumbling over an opponent who is headed for it.

A great many games are won and lost on so-called "flukes." But there are a great many of these startling, unexpected plays that are not accidents at all. One team wins because of them, and the other team loses, and for no other reason than that the lucky team had its men trained to follow the ball.

I have very lightly touched upon a few of the possibilities offered by following the ball. I purposely have neglected the forward pass, but in this as in every other phase of the game a man must know where that ball is, and I think we will all agree that if you are with the ball you are "in it," and that's where a man does

the most good in this game of football — right "in it," and in the middle of it. If I were asked to give briefly the best advice I could give for playing football, I would quickly answer: Keep your wits about you, your eyes wide open, and follow that ball.

TRACK ATHLETICS



TRACK ATHLETICS

With the resumption of the Olympic games and their establishment as the meeting-place of the athletes of all nations in competitive games, track and field athletics increased tremendously in popular favor, assuming a place unique in the world of sport. The rapid development in this country of such games as tennis, golf, and basket-ball had at one time threatened the popularity of track athletics. The Olympic games, afforded the stimulus needed to bring into track athletics the mass of latent material which the country possessed. As a result America stands to-day supreme in this branch of sport. Her athletes are admired the world over and her coaches sought as teachers in foreign lands. At home the ever increasing number of boys and men entering meets has had a splendid effect upon the youth of the country. Our big track meets, attended as they are by thousands of spectators and run off in an orderly, sportsmanlike way, are a tremendous factor in disseminating a healthy spirit of rivalry, fairness, and square play. No sport is more democratic or more easily freed from objectionable features. They offer opportunity

to thousands of boys in running, jumping, vaulting, and deeds of strength with weights, all of which are so much a part of the life of the average boy. Their interest is but natural. Track athletics organized as they are in this country, with important meets held in every section, afford boys the opportunity of seeing good athletes in action and good coaches at work to an extent which is equalled in no other branch of sport, with the possible exception of baseball. There is, however, in this very width of opportunity the danger of overdoing competition, and it becomes the duty of all interested in the welfare of the boys to see that they are carefully watched if they attempt strenuous competition during their developmental stage.

HOW TO BECOME A SPRINTER

BY MICHAEL C. MURPHY

One often hears it said nowadays that "sprinters, like poets, are born, not made." In a measure this is a true statement, because it is just as natural for some men to outstrip their fellows in a foot-race, as it is for others to pass their mates in any mental or physical task. It would be a hopeless undertaking to try to develop a cart-horse into a trotter, for they are built for totally different purposes. So it is almost as hard to make sprinters out of some athletes. At the same time any man, no matter how slow he is, can improve his speed wonderfully by constant practice and without any harm to himself. It requires a peculiar combination of strength, agility, and nervous energy to make a successful sprinter. But sprinting is something that every man ought to learn, because in learning how to run one acquires the faculty of quick thinking and physical control.

Before taking up the technical requirements of the sprinter, I want to correct a popular fallacy that, to be a successful sprinter, some particular build is necessary. This is a big mistake, for in the twenty-five years that I have

been training athletes I have seen and trained champions of nearly every conceivable build. Some were short of stature and inclined to be too heavy; some very tall and thin, while others had what is generally considered an ideal physical build. Consequently a man's shortness of stature is not proof that he cannot sprint, nor should he be dismayed if his physical dimensions run to the other extreme.

If there is any advantage to either type of man, I should say that it lies with the one who is tall and strong. But what he should consider above all other things is whether he has the nervous energy that will enable him to leave his mark and get under way without the loss of a fraction of a second, and the strength to carry him through to the tape without a falter. In sprinting, as in no other athletic event, success depends upon the ability to get the maximum return from every ounce of energy without the loss of any of it. To do this is an art that requires intelligent, determined and conscientious training.

There are three points of which the sprinter must make a scientific study if he expects to be a champion. These are: 1, The Start. 2, Getting into your stride. 3, Learning to finish.

I. The Start

Every successful sprinter nowadays uses the "crouching" start. The standing start used

for long-distance races is impracticable for the sprinter who needs to get away from the mark at top speed. The importance of a good start cannot be overestimated, for conditions being equal, a poor or slow start means certain defeat. The athlete who has mastered the start can usually gain from a yard to two yards at the very beginning of his race on the man who has not mastered it. The crouching start was first used by me in professional work in 1880, and introduced in 1887 when C. H. Sherrill, of Yale, the intercollegiate champion, demonstrated it. Needless to say, he was laughed at when he got down on all fours, but to-day no good sprinter ever thinks of trying any other start.

The object of a good start is to get off the mark and into your natural stride without the waste of strength or time. The first thing the runner should do is to dig the holes for starting. As no portion of the body can touch the ground in front of the starting line, the holes should be so dug that the runner can get as close to the starting-line as possible and yet be in a position to get away as naturally and as quickly as possible. To determine where to dig the holes the runner should first assume the correct crouching position. First, get down on one knee. The knee of the back leg should be about even with the inner ankle of the forward foot. This is the position you should have, the back

knee only being on the ground when the starter gives the first of his three signals, "Get on your marks." With the next signal, which is "Get set," you rise on the hands and feet, leaning forward as far as possible. In this position you wait for the report of the pistol with which you spring forward. The runner should be most careful to keep his mind concentrated on the gun. If he thinks of anything else he is sure to lose an instant before he realizes that the race is on.

As soon as you have found an easy, natural position for your crouch, you should dig small holes, which you can easily do with your spiked shoes, one hole for each foot. Be sure that these holes are deep enough and strong enough to give you a firm grip as you get your position. In preparing the holes they should be so located that the hands, which are on the starting-line, are not more than six inches in front of the forward foot. As the hands cannot be ahead of the starting-line, you will give away distance by having your feet farther back than I have indicated. Some runners with very long legs and arms give away more distance than this, but the positions I have indicated are best for the normal man. Above all, see that you are well balanced and can get off your mark without a tendency to wabble.

The most important part of the start is that of holding your body in perfect control after

you have been told to get set, and while waiting for the pistol. Let the weight of the body rest on the front leg, a little forward, so that the first drive of the legs will send you forward and upward. It will be found that the fingers will be of great aid in keeping the body properly balanced and directing the first forward spring when the pistol is fired. At the same time be sure that you have enough weight on the back foot to keep it firmly in the hole, and remember that the spring should be off both feet. It will take some time to acquire the perfect control of the body that will enable you to wait for the pistol. Do not get into the habit of swinging back and forth. This will either make you go off the mark too soon and subject you to a penalty, or you will find yourself left at the mark. Also avoid the trick of some runners who aim gradually to move the body forward after getting set, on the assumption that they can time themselves to reach the farthest point forward just as the pistol sounds. This practice loses more races than it wins.

II. Getting Into Your Stride

The same careful attention to details must be observed after the start, for getting into your stride without loss of energy and without wabbling is just as important as the correct start. As you rise from the mark you should spring

forward with the impetus which your crouch gives you. Make it a point to run straight and true, always remembering that the straightest course is also the shortest. Many runners make the mistake of taking too long or too short strides at the first spring. Make it a point to take these first strides naturally and easily. You will be rising gradually and will have covered twenty or twenty-five yards before you are running erect. Be careful not to try to get erect too quickly, or you will lose speed in consequence. In order to take your strides and preserve your equilibrium as you are rising, you should take these first few strides as easily and quickly as possible. Careful observation of these points will enable you to be running easily when you get erect and you will be able to put every ounce of strength into your work.

For the first few weeks of your training you will find that you will have plenty to do in mastering the start and getting into your stride. The third portion of your training, the final burst over the last quarter of your course, must be delayed until you have gotten sufficient strength and mastered the two essentials already mentioned. No sprinter, whether his distance be one hundred yards or two hundred and twenty yards, should attempt to run through the full distance at anything like his best speed during the first three weeks of his training. This time should be devoted to prac-

tising starts, learning to get into your stride quickly and naturally, with one or two jogs a day through your full distance, but not at your best speed nor a speed that will tire you too much.

Sprinters should be careful to get as much out of their arms as possible. Make them help the legs by ripping them forward and upward or by a good, hard cross motion. Never let your hands get behind your hips.

It will require a great deal of careful practice to master the start. You should try it half a dozen or more times a day, working at good speed for about twenty yards, then slowing down gradually. After a rest, conclude your day's work with a jog of one hundred and twenty or one hundred and fifty yards, though at about four-fifths speed. With a few weeks of this kind of training you will find that you are gradually mastering the start and that you are having no trouble to maintain your speed and equilibrium as you run into an erect position from twenty to twenty-five yards from the start.

III. The Final Burst

The candidate is now ready for some real speed work, which brings me to the third portion of his training. First of all, young sprinters, I would caution you not to overstride, even

after you have gotten into your running. To do so will certainly cause you to overbalance and lose some of your speed. After you have learned the art of being natural in your stride, its length will adjust itself. Let your aim be to run naturally and use every ounce of your strength. Above all, keep your mind strictly on your own work, and do not allow yourself to be pulled out of your stride by your opponents.

It is assumed that by this time the sprinter has been training for at least three weeks, and is ready for some speed work. During the third week the sprinter who is training for the one hundred yards dash should try himself out for one hundred yards against the watch. This will give him an idea of what he is doing, and at the same time show him whether or not he has enough strength to go the full distance. Probably he will experience a tightening of the muscles, or what athletes term a " tie-up " in the last twenty-five or more yards of the run. Under such conditions the runner wabbles over the last quarter of his course and has difficulty in finishing. To correct this and enable him to go through the entire distance without slackening his speed, and, above all, to have a final burst as he approaches the tape is the climax of his training. Nothing but conscientious work will enable him to overcome this weakening. But practice will bring about the desired result, and soon his legs will be strong enough

to carry him through the full distance without a let-up in his speed.

After you have been training for three weeks and started to run trials at the end of three or four weeks, care should be exercised in keeping them down to no more than two a week. If it is possible to run them in a set of games, so much the better. I usually advise sprinters to limit their trials to about four-fifths the distance of the race they expect to run. Thus if a man is training for one hundred yards he should confine most of his trials to eighty yards, going the full distance about once a week. By working out at his best speed for eighty yards he will depend upon the excitement of the contest to carry him the remaining distance without a let-up in his speed, a theory that seldom fails. Sprinters should not underestimate the amount of training and hard work it requires to enable one to run one hundred yards in ten or even ten and one-fifth seconds. It takes long and faithful practice to enable one to get every ounce of strength into his running.

The Two Hundred and Twenty Yards Dash

The technical part of training for the two hundred and twenty yards dash is much the same as for the one hundred yards, but the longer race requires far greater endurance and more judgment. The start for the two hundred

and twenty is much the same as for the one hundred yards, the same crouching start being necessary. The runner should jump into his stride as quickly as he can, and then let his legs do all the work without too much urging, and then if he has anything left for the finish he can put in his whole strength for the last twenty-five or thirty yards. Good judgment counts for everything in this race. No man can "try" all the way without tying up at the finish. Therefore the runner must learn by experience just how much power he can put on at the start. At the same time he must remember that he cannot loaf at any part of this distance. Most of the champions at this distance have been able to go a little further than the full two hundred and twenty yards. Sherrill, Wefers, Owen, Jewett, Schick, Lee, Tewkesbury, and Cartmell were all able to go three hundred yards. Therefore, after the runner has gotten into pretty fair shape, he should run a little over the distance, possibly twice a week. This will insure him with more strength for the finish.

Without going too much into detail for this event, the runner can utilize the instructions given for the one hundred yards dash, altering the distance proportionately for the longer event.

In conclusion, let me say that I know of no better exercise for boys and young men than

rinting. If indulged in moderately, it can't jure any one. On the contrary, it will rengthen the heart and build up the whole dy. And there is nothing finer for teaching youngster to think quickly and to give him the hysical poise which every boy ought to seek.

HOW TO RUN THE HUNDRED AND TWO HUNDRED TWENTY YARD DASHES

BY RALPH C. CRAIG

TRAINING for the "hundred" and "two-twenty" dashes is one of the most interesting forms of work that a boy can do on the track team. There is a snap and a dash about it which appeals to every boy, and whether he is proficient in the dashes or not, he is instinctively interested.

The dashes, and I use the plural because of the fact that an athlete usually runs both the "hundred" and "two-twenty," in any meet, are among the most strenuous events of the day, and as such the work in preparation for these races is most important.

Of course, any one "hundred" or "two-twenty" cannot be compared to the quarter, half, or mile runs, but when he considers the fact that a sprinter has to run from two to four or five races in one afternoon, and that in each race he is straining every muscle and every nerve to their utmost throughout the entire race, and the fact that in less than a fifth of a second his physical and nervous machinery —



RALPH CRAIG WINNING THE 100-YARDS IN RECORD TIME OF 9 4-5 SECONDS. INTERCOLLEGIATE GAMES, 1911.



DREW AND CRAIG AT TAPE AT FINISH OF THE 100-METERS IN THE OLYMPIC TRY-OUTS IN THE HARVARD STADIUM, 1912. DREW WON BY INCHES.



PATTERSON OF PENN, WINNING THE 100-YARDS IN 9 4-5 SECONDS IN THE INTERCOLLEGIATES IN 1913. LIPPINCOTT, WINNER OF THE 220-YARDS, SECOND MAN FROM LEFT. RELLER OF CORNELL WAS SECOND IN THIS RACE.



if I may use the word — has passed from a state of being normal to the state of maximum strain, I think that every boy will see my point, and will agree that the sprints are one of the hardest events of the day.

Hence the sprinter must be like a finely tempered steel spring, so that allowing a short period for rest after each race or heat, he will still be able to do his best.

In order to do this, a boy who wishes to be proficient in sprinting must not pay his attention wholly to running, but must pay careful attention to the general condition of his health. He must take exercises which have no direct bearing on running, but which will build him up and keep him in the best possible general condition.

Another point that most boys do not realize the importance of, is that the legs are not the all-important part of a good runner. They are the most important part to be sure, but the muscles of the hips, the back, the shoulders, and the arms all play their part, and it is an important part. A sprinter need not have the heavily developed arms of a weight man, but he must have arms which will, by their swing and drive, help him through the end of a hard race. His hips must have highly developed muscles, and the muscles of the back and shoulders are all very important. Those muscles need not be heavily developed, and in fact that should not

be the aim; but they should be of fine quality and capable of quick movements and of withstanding sudden great strains.

One of the chief troubles with the boy athlete is that he does not realize these things and their importance to him. He may hear of them, and practise exercises for a couple of weeks, which develop these other muscles and tone up his system generally, but then he cannot *see* that it makes any difference to him and he gradually neglects them for the more interesting work on the track itself.

This general development is of great importance to a sprinter, and in order that his whole system may be in the best of health, thereby giving him the reserve force which is so necessary to him, and in order that his arms, shoulders, back and hips be developed, as well as his legs, the boy athlete should take regular daily exercise, with the chest weights, dumb-bells or Indian clubs. He should not overdo it one day and neglect it the next, but take a regular amount, as will be prescribed to him by his coach, or if he is not fortunate enough to have a good coach, by his own common sense and feeling.

And right here is the core of the whole matter: a certain regularity about the daily work is essential to success in any kind of athletics, and by that I do not mean the same work day after day — but I do mean that the boy should

not go out and overdo one day and because of that, underdo for three or four days. The best judge of this is the boy himself. He can tell by the way he feels, the amount of work which is best for him, and now I want to give an important warning! Always stop when you feel that you can do more, and never go on with the exercise, either on the track or with the apparatus, until you become exhausted. The object of all training is to build up the system. This object is necessarily defeated if the boy athlete, in his own enthusiasm and high feelings does more than he should, and so drains the supply of reserve force which is so necessary in all competition. This is especially true in the case of boys between the ages of twelve and eighteen or twenty. A great deal of their strength is used in maturing their growth, and consequently they do not have the reserve force which a man of twenty-two years or older has.

This is very important, and I want to warn every boy of the evils of too violent exertions and of overdoing his training. A great many promising boys have spoiled their chances by trying to do too much in high school. But in connection with this warning I want to give another warning which seems to exactly contradict the first, and that is, that success in sprinting — and by success I mean becoming as good as is possible for the individual athlete — can be attained only by *hard, consistent work.*

Those two statements do not seem to jibe at all, do they? But if you will substitute stick-to-itiveness for hard, consistent work you will see what I mean: I mean that a boy should work hard every day, doing as much as he can without overdoing; that his work should be regular and persistent and that he should keep at it every day, even though he does not seem to be improving; but that, on the other hand, in his daily work he should be very careful not to overdo, for any *one day*.

When a boy decides to get out for any form of athletics he should first of all be examined by a physician or a man who has made physical culture his profession. For if he has a weak heart or lungs or his physical machinery is weak in any way, he cannot go into hard work with any hope of success, and what is worse, he works a positive injury to himself. The average boy, however, is sound in body and mind; and any who are not may console themselves by the sure knowledge that they can build up their bodies by gradual work.

After the boy has been examined and knows that his physical machinery has no flaws, he should begin in the gymnasium and work out three times a week during the cold weather. The exercise that he takes should be with the idea of developing the lighter faster muscles and no heavy lifting or heavy work should be done. In this way the whole system is built up,

and when the outdoor season opens the boy has a good beginning for his sprinting.

The first week of outdoor work should be long, slow work. Never try any speed, and above all never break off your marks. Right here I might give an important warning good for any time in the season, — never break off your marks until you are thoroughly "warmed up," and if it is a cold, raw day, do not attempt it at all. But returning to the first week: during the first few days the boy will feel so good over getting out of doors that there will be a strong tendency to do too much. This must be guarded against, for if you do too much one day, an almost inevitable result will be that you will do too little for a day or so after that.

After the first week of outdoor work, the starts should be practised every day — remembering, of course, to never "take your marks" without being well warmed up. The start of the sprints is *very* important, and especially is this true in the "hundred." The boy who can get away with the gun and into his running in fifteen yards has a great advantage over his competitors. Personally, this has been the weakest point in my own sprinting and it has been something which I have tried for seven years to improve, and while I am still a very poor starter there has been improvement and I am still working away on it.

In general, the holes should be dug deep — a

few notches in the track are not sufficient — and they should be placed so that the knee resting on the ground is on a line with the instep of the front foot. The holes should be far enough apart so that the back foot drives straight ahead on the first step. That is, do not dig the rear hole directly behind the front one, nor, on the other hand, dig it too far to one side of the front hole, but choose a happy medium and dig the holes so that when walking off your marks the rear foot moves directly ahead.

The front hole should be dug, as a rule, about ten inches behind the starting line, although the individual cases vary. In coming to the position "on your marks," the athlete's eyes should be straight ahead and every faculty and every nerve intent upon the fact that the instant the pistol is fired he must make every effort to reach the goal as soon as possible. At the command "get set" the athlete raises the knee which has been on the ground and leans forward, his eyes still fixed straight ahead on the goal and every muscle tense and ready to drive.

A proper balance is essential in good starting, for on the amount of drive depends largely the merit of the start. If a boy is not well balanced when he is "set," he is not going to get a good drive — and the legs alone do not give all the drive, but the arms and entire body enter in.

With the report of the pistol, make every ef-

fort to get into your running. This is most important. Do not jump up in the air, and do not try to see how long you can make your first stride, but make every effort to get into your running. By that I mean that you should as soon as possible get into the position you assume after you are running at full speed.

Many boys get a good drive and for the first stride seem to have an advantage, but in the next four or five they lose it all and their competitors who have gotten into their running sooner are leading them at the thirty-yard mark.

The start having been made and the speed attained, attention should be paid to the position of the body, arms, head, etc. This is, of course, only in practice. In a race the one idea is intense concentration upon the thought of "getting there." But in practice you must keep your mind upon *how* you are running, until your faults are eliminated, and until your form is second nature to you.

Every boy can attain the best results by running naturally and eliminating his faults. No general rules can be made which will suit every case and every boy will run differently. But there are certain general principles which can be modified for every case. In general, the arms should be held rather high, the elbows bent and the hands clenched. It is advisable to use a pair of grips of cork or any other light

material, that will fit the hand and give the runner something to clench down upon.

The arms are a great aid in sprinting and their movement should be sharp and forceful, and the greatest force should be used in the forward stroke. That is, strike forward with your arms harder than you draw them back. A large number of athletes do not do this, and, of course, the idea of swinging the arms is to balance the body and to utilize the force of inertia in aiding its forward movement.

Another common fault is in running too straight up in the air. The best results generally are obtained from holding the body inclined slightly forward. The reason for this is simple. Stand with your feet together and lean forward. As you lean forward you find that one foot instinctively comes forward to keep your balance. If the leaning is continued, your other foot comes forward and soon you are running in spite of yourself. In this way the force of gravity is used to help your running.

When the body is held straight it is muscular effort alone which moves it, and surely muscular effort plus gravity is better than muscular effort alone.

Another common fault in boys who are working out for the sprints, is that they do not keep their minds upon the goal. They are thinking of the "other fellow" and are looking over their shoulders to see where he is. More dashes

have been lost in this way than any other way that I know of. It is absolutely essential, in order to do your best, to keep your eyes on the tape or string throughout the entire race.

Now, as to a weekly program: as I have said before, no one rule can be set down for every boy who is working out for the sprints as every one has to do a little different sort of work in order to get the best results. But a good general program would read something like this, except that the first week or two should be devoted to long, slower work:

Monday — Practise starts, about fifteen yards from four to six starts; fifty yards at full speed. Swing through one hundred and fifty yards faster than a jog, but not at top speed.

Tuesday — Starts, four to six; two forty-yard dashes; swing through two hundred and twenty.

Wednesday — Starts, four to six; one hundred yards. Then after a good rest jog slowly around for three hundred yards.

Thursday — Starts, four to six; a fairly fast one hundred and ten yards, but not at top speed. Then, after a rest, swing through one hundred and fifty yards.

Friday — If there is a meet on Saturday jog through one hundred and fifty yards; if not work same as Tuesday.

Saturday — If there is a meet, keep off the

feet as much as possible and rest; if not, do whatever work you feel like doing.

That is, of course, a very general program, and every boy will have to vary it to meet his own individual requirements. If his starting is slow the greater part of his work will have to be on the starts. If he cannot finish well, he must work up the stamina and endurance necessary for a hard finish.

Now, as to dieting. This is not necessary in the case of a high school boy, and the ordinary table diet is satisfactory except that the boy should avoid pastries, candy, etc., and, of course, every boy knows the evil effects of tobacco and liquors of any sort, and so a warning against them is not necessary.

Another thing to remember is that a sprinter is not made in a day, or a year, or two years. It is only by steady, consistent plugging away that you will be able to accomplish anything, and remember that the object of athletic contests is to find out which is the best man or the best team, as the case may be, and that if you cannot beat the other man fairly you do not want to beat him; that if you are beaten it is simply an incentive to you to work harder so that in the next race you can win.

HOW TO TRAIN FOR THE DISTANCE RUN

BY KEENE FITZPATRICK

We can lay down rules for the training of football players; we can make out a general plan of training for a baseball squad; jumpers, vaulters, and weight men can be developed along the same general lines. But when it comes to developing men for the distance runs, no one can lay down rules. Everything depends on the man himself. True, he can be told what to eat and what not to eat; he can be given some general orders that will apply to all men. But his case must be studied and studied carefully before actual development of the runner begins. A trainer might have a squad of a dozen milers. Should he give them but one set of rules, it is likely that not more than one of the twelve would derive any great benefit from following them. The distances given out for the daily run might be too long for some and not long enough for others; one man might need work in the sprints, while another might need long walks across country to develop his endurance.

And so, the first thing to do in training for the longer runs is to study the candidate. This should not rest entirely with the trainer. The runner himself should try to locate his weak points. He should know what work he needs. Then, after this knowledge is accumulated, earnest training may follow.

It is difficult to say when a man should begin running. Some boys develop with surprising rapidity, while others are men in years before they are physically able to undergo the required training. However, I should say that no boy should begin running distances until he is sixteen years old. The normal boy at that age can stand a reasonable amount of exertion without injuring his heart or lungs. Of course there are many exceptions to the rule. Some boys may be able to stand hard work before they are sixteen years old, but to say that it is safe for them to begin training is a mistake. Many high school boys ruin any chance they might have had by beginning track work before they are developed to the necessary degree. I have had numbers of cases of men at Michigan who came up for examination, to be told that their heart had developed a "murmur." This, in many instances, was undoubtedly due to overwork in athletics before they were sufficiently mature. When a man's heart is affected, his chances of ever becoming an athlete are gone. A good heart is the very foundation

of prowess on the track or field. No trainer will allow a man who has a weak heart to do even the lightest work.

When the young athlete is considered sufficiently strong to commence running, he should not start work on his own assurance or that of his trainer. He should be carefully examined by a physician. There may be a defect that will wear off in a year or so, and there may be a defect that would endanger the boy's life should he exert himself to the degree required in running.

And then the first step in training is to stop smoking. The boys who use tobacco in any form before their athletic careers end are heavily handicapped. "Oh, pshaw," they will say, "I only smoke a pipe, and I cut that out when I begin work." Perhaps they do. Perhaps they let tobacco entirely alone for weeks before their training season opens and never touch it again until the last meet has been fought out. But nicotine will leave its mark. This mark may be ever so slight and the smoker may never realize that he has been injured by the habit. But his efficiency has been impaired to a greater or less degree. Boys, as a rule, do not realize this. Their parents and teachers warn them against the use of tobacco. Still they give no heed. If they could only know great athletes and know their habits it would be a lesson to them. Many are the men who have been ren-

dered unfit for track, baseball and football, all on account of tobacco. And they need not become inveterate smokers to ruin themselves, either. The men who have been the strongest assets to the big university teams have let tobacco entirely alone until their college days were things of the past.

Dieting is an important part of preparation for track work. Here again, it is difficult to lay down rules. Some food stuffs that may be nutritious when cooked in one form, may be injurious when prepared in another way. Pastry should be let alone entirely; so should fried dishes. Well-cooked meats, eggs, fresh vegetables and milk make a substantial diet. Don't gorge. It is just as bad to overeat even properly cooked food as it is to fill up on pies and cake.

After the candidate for long distance running honors has been thoroughly examined and his habits of living fixed, he should begin active work as soon as possible.

Training for track work generally begins in the spring, when the weather is still unsettled. Weather plays an important part in the training of a distance man, because his work necessarily takes more time than that required to fit men to enter other events. He must be out in the open many hours a week. There is, of course, no danger as long as the days are warm, but when a cold spell sets in it is likely to have

a bad effect unless the runner takes due precautions. Never work out on a cold day with your legs and arms exposed. Many high school boys insist on running across country on cold days in nothing but an ordinary track suit. This is likely to cause lameness, stiffness, and bring on colds.

Don't begin things with a rush. It will not pay in the long run and most certainly will do you no immediate good. Cross-country walks and runs are the best things to fit a man for hard competition on the track. Here again, everything depends on the individual. Some men can travel several miles without tiring, while others will be worn out with only a short jaunt. Do not begin running at once. Start out and walk. Walk long distances and run a little now and then. Do not allow yourself to tire. For the first week confine yourself to work every other day and walk most of the time. Breathe deeply and walk briskly, taking every bit as much care of yourself as if you were working to the limit of your endurance. After this preliminary preparation, begin running a little more, always keeping well within the limits of your strength. Leave your training quarters slowly. When you begin to breathe heavily or your legs tire — be it even a trifle — drop back to a walk and rest yourself. Then run again. Keep this up day after day and you will find that your endurance is

rapidly increasing. Now and then a man will have an " off " day. Don't think because you tire in a quarter of a mile where you could run a full half the day before that you must do that half-mile. Always remember that to tire yourself is only to hamper your progress.

The distance you should cover in these walks and runs depends, once more, on the individual. For the average boy of sixteen years from one to three miles should be sufficient. After a few weeks you will find that you can run almost the entire distance where it tired you to walk it before. Don't, above all things, increase your work before you feel that you can do it without tiring out.

When you finish your work-out it is well to bathe. Take a good warm shower and rub yourself down well. Many high school boys as well as college students seem to believe that they cannot properly train without a rubber to go over their bodies after they have taken their daily exercise. Of course, a rub-down is advantageous, but it is not at all necessary. It will loosen stiff muscles and take out the soreness, but, as I have said before, it is not essential. However, a man can rub himself down when necessary. It may be a trifle irksome after taking a hard work-out, but will prove to be a benefit in the long run.

And then, after you have rested, eat. Do not exercise immediately after a meal, or eat at

once after exercising. One is equally as bad as the other. It hurts your digestive organs, and without a stomach in good working order no man can become strong in athletics.

Get plenty of sleep. Remember that you are working hard every day. You are eating carefully selected food to keep up your body. But sleep is an essential. Sleep eight hours at least out of every twenty-four. Sleep in a well-ventilated room. The air need not be cold, but it must be fresh. To sleep in a tightly closed room is harmful. You are using up much muscle tissue and the waste is being largely carried away through your lungs. This requires plenty of fresh air, and to inhale stale air for hours at a time is just like taking so much poison. Have your room well ventilated and you will awaken in the morning with a clear head and a desire for more work.

Gradually, as you follow this course of preparation, you will be able to go the full distance. And this brings up the question of how far a boy should run. No growing boy should attempt to run more than a mile. He can do the sprints and the four hundred and forty-yard dash and the half-mile and the full mile. But there he should stop. The longer races are a tremendous drain on a man's strength and are meant to be run only by those who have a full development.

You should have commenced training early

enough so that you will feel able to run your distance, or over, at least four weeks before your first serious competition. If you are trying out for the half-mile, run three-quarters of a mile for a time. If you desire to run the mile, go a little over that distance. Do not run at your best speed. Accustom yourself to the distance and learn to know your pace. Know how fast you are going and how long you can hold the pace without tiring. If you are exceeding your limit, slow up. When you can finish your distance or a little over at a reasonably good rate of speed without feeling tired and weak, begin to increase your speed. The time for doing this all depends on the man. He knows best.

While you are getting your pace and going the distances that you are to go in competition, vary the running with short sprints. Start from the mark and run thirty or forty yards at top speed. Do this half a dozen times every day. Then move about to avoid taking cold, but rest yourself before starting out to run the daily distance.

When you can run more than the distance which is to be raced at good speed and finish in good condition, cut off the extra yards and begin working faster. Don't run at top speed every day. If you feel listless and are without energy it is a sign that you are doing too much or not living properly. Cut down on the work for a few days and take things easier. Even



YOUNG OF AMHERST WINNING THE QUARTER IN 48 4-5 SECONDS. INTERCOLLEGIATES, 1911.



CALDWELL OF CORNELL WINNING HALF-MILE IN 1 MINUTE, 53 2-5 SECONDS, AND BREAKING RECORD. INTERCOLLEGIATES, 1914.

THE MIDDLE-DISTANCE RUNS



ı you are feeling in the best of condition
ot exert yourself day after day. Run your
ıce two or three times each week, then
things easier for a day or two.

least two weeks before the first race, the
er should know what he can do. It is well
ıve timers take your time by quarters. In
way, and only in this way, will you learn
pace. You will know that if you go the
quarter too fast you are bound to be too
for the final burst of speed, and if you are
ng you will be forced to overdo in the final
ıs of the run. Every truly great runner
udge his speed. He knows when the pace
o fast and he knows when he should be
ng faster to avoid the danger of a hard
in the final few yards.

course, it is almost useless to give instruc-
for a race. You know — or should know
ıw much you can do, and there are count-
things that may arise during the running
ıalf or a mile that will upset the most care-
laid plans. But if a man can judge his
and knows his limit, he can rely upon this
ledge, and it is the greatest asset he has
he steps on a track to compete with
gers.

a runner is strong and knows the men
ıst whom he is running, it may be well to
ıe pace. But this again depends entirely
ınditions. If some one else sets the pace

and you feel it is more than you can do, don't worry. You are out there to run the distance in the fastest possible time and, if you have trained properly, you know of how much speed you are capable. Go the fastest you can in the early stages and still retain strength for the finish. If the others draw away from you when you are doing your best, don't worry. To follow them would only be to wear yourself out, and they may tire and give you your opportunity at the finish. Keep going at the best speed you can maintain. Should the others lag, don't congratulate yourself. They may be reserving much strength for the last fraction of the distance. Run your own race, regardless of what the others may do.

Many distance races are won in the last few yards. Be ready for the final burst of speed. If you feel that you have the race safe and are strong enough to beat any one who might sprint to the finish, be satisfied. Hold yourself for this possible struggle. At the same time do not take chances. Should some of the others begin to sprint in the last few yards, follow them. Run your best. Pay attention to your stride. Keep it up as well as possible. Glue your eyes on the tape and determine that you will reach it first. Think of nothing but keeping yourself well together and bringing every ounce of energy to bear.

During the track season you will probably be

called on to run in several races. Take the best possible care of yourself during this period. Watch your food and watch your body. After a race and before another, rest for an entire day. This does not mean stay in bed or remain in the house. Get plenty of fresh air, but do not exert yourself in the slightest. Run your distance once or twice during the days that come between competitions.

And then, after the season is over, let down gradually on your training. Remember that you have been under a severe strain, and do not let go at once. Get plenty of exercise and plenty of sleep. Cut down your daily work gradually. Remember that there are other races before you in the years to come and the sudden breaking off of training may do you a great harm.

I have dealt with food, sleep, and tobacco. I have taken it for granted that none of the boys who are in high school athletics use intoxicating liquors. If they do drink beer or any other alcoholic drink it is a question whether they will ever amount to much on the running track.

Always keep in mind that it is the high school boy of to-day who is to be the great athlete of the future. You cannot grow into a Jones, a Meredith, a Taylor, or a Rose in a year. You must keep steadily at it. Do not overdo. Keep your habits regular. Year by year you will become stronger, and when the time comes for

you to enter college, you will be ready to take up the more severe work that is there required, and possess a splendid foundation upon which to build.





PAUL JONES OF CORNELL MAKING A NEW WORLD'S ONE-MILE RECORD OF 4 MINUTES, 14 2-5 SECONDS. INTERCOLLEGIATES, 1913.



THE FIELD IN THE MILE RUN. INTERCOLLEGIATES, 1913.

THE DISTANCE RUNS



THE ART OF HURDLING

BY A. L. JACKSON

HURDLING is an artistic science. There is probably no prettier or more thrilling spectacle for the average spectator at the modern field and track games than a hurdle race. Every one likes to see the runners jump the barriers, but few people know or realize the amount of time and effort that is spent in grooming and training the modern hurdler.

There is a story told of the late Bill Quinn, the well-known Harvard track coach, who was noted for developing green men into point winners and even into intercollegiate champions. One day a senior, who had tried his hand at every other major sport in a vain effort to earn the coveted letter, reported to Quinn for the hurdles. Quinn asked him his name, class, and experience. When he learned that he was a green man and a senior, he sent him away with the remark, "Why, man, this hurdling game is a four-year course; you came around too late." And that is true. A champion hurdler is not made in a few months or in a year. It takes time and patience and work, lots

of work. Still this work has its reward. In the ordinary runs on the track program, a man can be groomed for a race in a few weeks. Oftentimes a man is swung over from the sprints to the distance runs or from the distance runs to the middle distances, and very often displaces the former champion at that distance. Not so with a hurdler. The man of two years' experience in hurdling is two years better than the man just starting in and within a given radius will remain two years better than that man, no matter how long or hard the green man struggles.

One has only to look over the records of present day and former champions to prove this. Take Simpson, Shaw, Garrells, Kraenzlein, and the recent intercollegiate champion, J. I. Wendell. In the year 1910 Wendell took a bad fourth place in a semi-final heat in the intercollegiate championship, because Chisholm of Yale, Long and Lewis of Harvard, were experienced hurdlers, with potentially no more speed than Wendell had, but having the "form." That heat was won in sixteen and one-fifth seconds. The following year, the same Wendell, with a year's experience and practice, won the Intercollegiate high hurdle race in fifteen and three-fifths seconds, and took third in the low hurdle race, which was won in twenty-four and one-fifth seconds. The year after that, he outclassed the field in both events, winning

the high hurdles in the same time after doing a fifth of a second better in the semi-finals. Then he went out and tied Kraenzlein's world's record of twenty-three and three-fifths seconds in the low hurdles, ending a glorious athletic career with two championships.

Now a hurdler must have a long, easy stride and plenty of snap and spring in his legs and body. Obviously he must be a good sprinter to begin with, especially to run the low obstacles. The high hurdles are placed ten yards apart and there are ten of them to be safely cleared, and there lies one of the most exciting elements in the race, for there are ten chances for a man to strike a hurdle and lose his stride or tumble, either one of which will put him hopelessly out of the race. For one's stride is an all-important thing. It must be so regulated as to bring the same foot forward each time a hurdle is to be cleared, and mind you, the high hurdles are three feet, six inches high and the low just a foot shorter. In order to do this, the ten yards must be covered comfortably in three strides. In the low hurdles, which are twenty yards apart, the distance ought to be covered in seven strides. Some short-legged men use nine strides, but they are obviously at a disadvantage.

Now these hurdles must not be jumped. They must be stepped over as one would step over a curbstone. It has got to be done auto-

matically in one's stride. One, two, three — step; one, two, three — step, and so on. It is obvious that one cannot make time in the air. Therefore the hurdle must be stepped as closely as possible, for it is the man who gets to the ground quickest who will win his race. Three inches saved in going over each hurdle will make almost a fifth of a second's difference at the end of the race, which is good for nearly two yards, so you see the importance of getting "form," that is, the ability to take a hurdle close and fast and land running with no perceptible pause in clearing the hurdle.

There are as many different forms or styles of hurdling as there are coaches, but they all aim, or should aim, at taking a hurdle close with as little effort as possible. The main fault of beginners is that they jump their hurdles, shooting straight up in the air with both feet almost directly under them, or they drag the back knee and leg too much, so that they float over the hurdle and have to wait till they come to earth again before they can start to run.

In order to cure these two faults one must learn to control one's legs just as a ballet dancer does or as a boxer controls his arms. Most of us know how hard it is to learn to use our left hand in boxing; but practice will bring it around. So it is with hurdling. Exercise to become supple and springy. If you are stiff in your legs and crotch, exercise them more; con-



JAMES WENDELL OF WESLEYAN, WINNER OF BOTH HURDLE RACES, INTERCOLLEGIATES, 1913, WINNING THE HIGH HURDLES. JACKSON OF HARVARD, SECOND.



CUMMINGS OF HARVARD AND CHISHOLM OF YALE OVER A HURDLE TOGETHER. HARVARD-YALE GAME, 1912.



JACKSON OF HARVARD LEADING BRAUN OF DARTMOUTH IN SEMI-FINALS OF HIGH HURDLES, INTERCOLLEGIATES, 1913. BRAUN WON THIS EVENT, INTERCOLLEGIATES, 1914.

THE HURDLES



ntrate on that. Learn to do the split on your droom floor after the fashion of our tumblers ıd gymnasts. Try walking up to a low chair ll you are almost on top of it and putting your ot up and over it with one motion until you ın do it without halting your step. When you ıve mastered that, try a low hurdle, just one, ıen a three-foot hurdle and so on up to the gulation hurdle. Then try two or three hur- es ten yards apart and try to make them in e required number of strides. Keep at it hen you bang your knees and shins. Most ampions can show you scars years old which ey have gotten doing just this sort of thing. Then try a race or two. It will be awkward first and you may get a fall or two, but you ll learn to control your body and some day ı will feel it come.

he height of the hurdle won't worry you, when a man presses you in a race you will matically take your obstacles lower and r until you gradually draw away from him. remember, three yards gained in ten hur- cannot be easily regained by mere speed ten yards from the last hurdle to the Invariably the man over the last hurdle, ins the race if he runs through and does f on the job. Remember, too, that a third his year is good for a second place next you keep at it, for the hurdle game is you can always learn more about, no

matter how long you have hurdled. It
always keep you thinking, and it is the
who thinks out his faults and the faults of
other fellow and improves his style to coun
act other faults who eventually becomes the
notcher, and everybody wants to try for the
notch if only for the fun of trying.

You have got to have brains and learn
use your head, to hurdle properly, and you h
got to learn to stick, which are qualities
will always be useful in any walk of life, wh
there are always obstacles of one kind or
other to be overcome.



FIELD ATHLETICS



HOW TO THROW THE WEIGHTS

BY JOSEPH HORNER, JR.

A BOY who rises to fame and glory in the athletic events of our schools and colleges is generally recognized as one whose skill in the performance of athletic feats has enabled him to distinguish himself above his schoolmates. To be an athlete is one thing — this requires skill. To achieve fame is another thing, and this has for its foundation *the ability to show athletic skill.* Whether the boy athlete is a sprinter, high-jumper, pole-vaulter, distance-runner or weight-thrower, he is credited with having perfected himself to a certain degree in the art of athletics. The ability he has to show his skill in competition with others, and the reputation which comes to him as a result of his competitive performances go hand in hand. In other words, a boy may be able to jump high and sprint with great speed, but there is a big difference between jumping and sprinting, and jumping and sprinting in competition. *Skill* is therefore the first essential in the successful performance of an athletic feat. To show skill

in competition with others is almost another phase of athletics.

If any one should tell you that there is more skill in weight-throwing than in any other track or field event it would sound unreasonable, but this is the truth. Putting the shot, throwing the hammer, and throwing the discus have always been grouped together in a set of three as though they were "three of a kind." To say that a boy is a weight-thrower seems to imply that he must be built like Hercules, and that if he throws one of the three weights he must be able to throw them all. It is true that weight-throwers as a rule are big men, but many times men with comparatively small frames have defeated others whose massive bulk towered above them. It is also true that a boy athlete often becomes quite proficient in throwing all three weights, but by practising and performing all three on all occasions he is actually working against great odds and hindering himself in an effort to make his performance represent the best that is in him.

People make a great mistake in thinking that a twelve or sixteen pound shot or hammer is so heavy that it requires a two hundred and twenty-five pound man to lift it and toss it into the air. The average man carries ten pounds of clothing with him all the time. He could lug a twenty-pound suit-case for a block and never notice it, to say nothing of throwing it into the

air if he wanted to. Just because the weight of a shot or hammer is confined to a small sphere a few inches in diameter he thinks it is so heavy that it would be absurd for him to attempt to perform any athletic feat with it, — or if it happened that he was not possessed of colossal strength he might even shirk from touching it. But it is a common saying among athletic authorities that "any kind of a build is suited for any kind of an event." This is as true of the weights as it is of any other of the track or field events. Brute strength is not essential in weight-throwing. *Skill* is absolutely necessary.

Thus any boy who understands the importance of skill in weight-throwing can feel sure that he does not need to be the least bit stronger than any of his companions in order to excel in putting the shot, throwing the hammer, or throwing the discus. If he tries to perform all three weight events he must know what odds he is working against. If he wants to reach the point of highest efficiency in any one of them, he must know what constitutes *skill* in the performance of that event. He must know where to look for it and how to attain it.

The three weight events differ from each other far more than what may be classed as the three jumps, — the high-jump, broad-jump, and pole-vault. The "spring" in the muscles of the calf is essential in all of these events,

whereas different muscles are used and exercised in each of the three weight events. The shot-put is a one-arm push with all the body behind it. The discus-throw is a one-arm side pull, and the hammer-throw is a straight, back pull with both arms. A push and a pull are two absolutely different things from the point of view of muscular exertion and development, and although the side pull of the discus approaches the straight, back pull of the hammer, the exertion of the body as a whole depends upon an entirely different set of muscles. The muscles developed in putting the shot and those developed in throwing the hammer or discus absolutely conflict. That is the reason why the three weight events are not "three of a kind," and why a boy who tries to become highly proficient in one of them can do so much more easily by leaving the other two alone.

Putting the Shot

In all of the weight events, *skill* is exemplified by the quick action, or "snap." In putting the shot, quick action is the most important factor. There is no time for reflection after the put has once been started. The right foot should be placed just inside the ring of the seven-foot circle directly opposite the toe-board, or the front of the ring. The whole weight of the body should be balanced upon the

right leg momentarily, and the knee bent slightly just before the spring forward is begun. The left leg should be extended with the toe of the left foot touching the ground so that a perfect balance can be maintained. The shot should be poised in the right hand in front of the shoulder so that the weight of the sphere rests upon the cushions of flesh covering the knuckle joints of the first and second fingers. The thumb and the fingers should clasp the shot with just enough pressure to hold the weight in position. Unless the fingers are very strong the weight should not be placed too high up on the cushions of the hand. The left arm should be extended straight out from the shoulder to further aid the balance.

As soon as this position is assumed the weight of the body should be brought into a nice even up and down swing by a slight movement of the left leg. Instantly the body should be lurched forward without a single change by springing from the right foot. The right foot should then strike the ground somewhere near the center of the circle, and the left foot should come down, too, a few inches from the front of the ring on the left of the center. Both knees should be bent when the feet strike the ground, but the right slightly more than the left. From this crouching position the body should spring upward with just enough of a spiral to throw the whole weight of the body behind the right

shoulder, moving in an upward and outward direction. During this spiral spring the right arm should be thrust up and out and the left arm should be brought down with force to aid the spiral. When the feet strike the ground again the right foot will be flat up against the toe-board, and the left foot back.

Important above all else is the way in which the shot leaves the right hand. The weight has been borne by the cushions over the knuckle joints of the first and second fingers from the start, but toward the end of the upward and outward thrust of the right arm the ball should roll up on the fingers and leave them at the tip. Virtually, there are four speeds in the entire act of putting the shot, — each one piled on top of the other so that the result of them all is the final velocity which gives the shot its momentum. The spring across the circle is speed number *one.* The spiral spring shoving the right shoulder upward and outward is speed number *two.* The thrust of the right arm is speed number *three,* and the "slap" of the fingers as the ball rolls up and leaves the hand at the finger-tips is speed number *four.* Each one of these four speeds is of vital importance. To make use of them all and in perfect harmony, getting the greatest value out of each one without depreciating the value of any other, constitutes the elements of skill in putting the shot.



JOSEPH HORNER FINISHING HIS WINNING PUT OF 46 FEET 7 1-8 INCHES IN THE INTERCOLLEGIATE GAMES OF 1911.



L. A. WHITNEY OF DARTMOUTH, INTERCOLLEGIATE CHAMPION, 1913. A POINT-WINNER IN THE 1912 OLYMPICS. WHITNEY IS SEEN HERE AT THE BEGINNING OF A PUT.



WILLIAM E. QUINN AT THE BEGINNING OF A THROW. QUINN, THOUGH A SMALL MAN, HAD A RECORD OF OVER 160 FEET WITH THE 16-POUND HAMMER. HIS FORM WAS ALMOST PERFECT.

THE SHOT-PUT AND HAMMER-THROW



The problem of developing these speeds and of getting them to work together is a difficult one. They ought to be learned just as they are to be performed, but matters can be simplified somewhat by cutting out the first spring forward into the circle and by practising the last three speeds from the position near the front of the circle. In other words, by standing in the starting position with the left foot a few inches from the front of the ring, the body can be brought into a slight up and down swing by a slight movement of the left leg, and immediately lurched into the spiral spring without the jump across the circle. This is properly called "putting the shot from a stand," and it may be practised over and over again with ease until the spiral spring itself, the thrust of the arm, and the "slap" of the hand is perfected.

Throwing the Hammer

In throwing the hammer the question of quick action, or "snap," is again foremost, but unlike the act of putting the shot, quick action is not called for until the motion of the weight is well under way. The position for starting should be taken by placing the feet an easy distance apart with the toes just inside the ring at the rear of the circle. The body should face the direction opposite that in which the hammer is to be thrown. The ball of the hammer

should be allowed to rest on the ground at the right and behind the person holding it, and it should be placed just far enough away so that it is necessary to bend the body around to the right. The handle should be gripped firmly by crooking the fingers over the straight wire bars. When this position is assumed the weight should be lifted from its resting-place with just enough speed to carry it in front and away from the body, a few inches from the ground. At the instant it reaches a point directly in front of the body both arms should be straight, and the ball should then be swung upward on the left so that the handle can pass over the head. As the ball completes the first circle by passing in front of the body at the low point, both arms should again be straight. On the second swing the speed of the weight should be accelerated a trifle, and on the third swing, a trifle more. The knees will bend but the shoulders must be held back as the speed increases. Then comes the quick action. As the ball comes to the low point directly in front of the body, at the end of the third swing, the feet should leave their position and the whole body should whirl about with enough force to increase the speed of the hammer tremendously. The force of this quick movement must come from the body and not from the arms, for the arms must be held straight in line with the hammer handle all the time. When the ball

approaches the low point for the last time the feet should strike a position and hold it. Then one hard pull with the legs and back will give the weight its final momentum as it rises to the point over the left shoulder where it must be released.

Applying Centrifugal Force

It is easy to see that centrifugal force plays a great part in throwing the hammer, but it is quite as easy to make a grave mistake in thinking that lifting, pure and simple, has something to do with it. Centrifugal force, or the tendency of a revolving body to fly in a straight line from central point, is the whole thing. If a lift is resorted to when the centrifugal force cannot be controlled the throw will be a failure. The position of the body on the first three swings, as the ball passes the low point directly in front of the person holding it, will serve to show how the centrifugal force in the weight of the hammer acts, and how the body reacts against it. The ball is low to the ground, the knees bent, the arms straight, and the shoulders back. The weight of the hammer is pulling straight against the weight of the body and, if it were not for the feet pushing against the earth, a line drawn through the wire handle of the hammer would pass directly through the center of the mass of the body. Because the

feet do push against the earth this line passes a little above that point.

But to size up the situation, here are two weights, — one whirling, and the other turning on a pivot. When the body leaves its pivot it must whirl also. The only difference between the two whirling weights lies in the fact that the lighter body describes the greater circle. Now if it were possible for the ball of the hammer to suddenly be held at one point in space the momentum of this little sphere would be immediately transmitted to the person on the other end of the wire, who, in turn, would either have to hang on and whirl around or fly off at a tangent. This is often the case when the heavy ball strikes into the soft earth.

Exactly the same thing takes place when the body of the thrower suddenly comes to a stop by the feet taking a position at the end of the last whirl. It is obvious that at that time all the momentum of the body being transmitted to the ball would increase the speed of the ball to something terrific. A final pull is absolutely necessary in an effort to keep the body from being dragged from the point where it is anchored.

The action in throwing the hammer has been described as consisting of three swings and two whirls, but this is not the only action or "form" used. A double whirl is most common among hammer-throwers although a sin-

gle whirl is sometimes used by beginners and a triple whirl by experts.

The part that the feet play in the whirl has not been mentioned for the simple reason that the action of the feet depends entirely upon the weight and height of the man. Some expert hammer-throwers barely touch their feet to the ground except when the ball passes the low point. In this case there seems to be a sort of double action of the body like that of a cat when it is held by the feet and dropped, — the fore feet come down first, and the hind feet afterwards. With the hammer-thrower the trunk of the body seems to turn first. The feet follow quickly, but are clear around and on the ground again before the swing of the hammer has completed a circle. There is still another type of hammer-thrower who pivots his weight on the toe of the left foot all through the whirl, the right foot striking the ground only at the low point. Such methods, however, are uncommon and are made of practical value only by years of experience.

Skill in throwing the hammer is the outcome of careful study in practice with regard to the relation between the weight of the sphere and the weight of the body during the time that both are whirling at a high speed. The first three swings of the hammer may be practised by releasing the handle over the left shoulder at the end of the third swing. A throw of any

distance cannot be hoped for without at least one whirl, for high speed is impossible unless the whole body is brought into action.

Throwing the Discus

The discus-throw is the most graceful and the most difficult to master of the three weight events. The discus only weighs about four and one-half pounds, — so here is an event success in the performance of which is surely based upon a preponderance of skill — hence the difficulty. The average man of strength could put the twelve-pound shot from thirty to thirty-five feet without practice while an expert could hurl it only half again as far. It is well to say that the average man of strength could throw the discus about sixty feet, while an expert could sail it out one hundred and twenty-five feet, or more.

The " form " of throwing the discus is much simpler than that of either the shot or the hammer — that is, an idea of how the act should be performed can be grasped very readily — but to perform the act is another thing. The right foot should be placed just inside the ring at the rear of the circle and the left foot an easy stride toward the center. The discus should be placed against the palm of the right hand, just allowing the tips of the first three fingers to turn on the rim. The fingers should be quite

close together. The edge of the discus should never be gripped, for it is held in place by friction against the palm with the finger ends acting as a stop. The position of the discus can be made more secure by pressure against the left hand held near the left shoulder, or by a semicircular swing of the arm at the right.

The body should twist with the motion of the right arm, and the left arm should be extended to preserve the balance. Such a swing is the very first movement to be made when the throw is commenced. When the right arm is in the rearmost position on the back half of the swing, the feet should leave their position and one quick snappy whirl should be made. All through this whirl and at the finish the back of the hand should be up. The discus will be held in place largely by centrifugal force, and when released should spin on its flat surface, sliding forward from the tips of the fingers and rising always with its plane parallel to the face of the earth. This is the trick, to get it to sail out without wabbling, and to give it great velocity by performing the feat with lots of "snap." When the sail is perfected, the velocity may be increased by a quick movement of the wrist, causing an increased pressure of the finger-tips against the rim of the discus after it has slipped from the palm of the hand.

Skill in throwing the discus lies in getting the greatest value out of each of three com-

bined speeds, namely: the whirl of the body, the swing of the arm, and the snap of the wrist at the finish. The last two may be practised from a standing position, and even in throwing the whirl may be omitted by jumping forward in the circle when the arm swings back on the start. Centrifugal force is important throughout the act of throwing the discus although it is more of an incident to the act than a main factor in it. It serves to keep the discus from falling out of the hand, and it allows for the accumulation of greater resultant speed than is possible in a straight throw by jumping across the circle and omitting the whirl.

When a boy has learned how to throw the weights and has developed a certain amount of skill in executing the act, he ought to be made to realize that what he has thus far attained is means to an end, and not an end in itself. The underlying motive that we all have when we work diligently at any one thing is the desire to excel. Matching the results of our efforts against the efforts of others and seeing and recognizing the progress that we have made is the compensation which we derive from our labor. There is no athlete alive who does not know what it is to be defeated. There is not an athlete in the world who does not know what it means to win. To fight one's way through the hazards of competition in any kind of an athletic event is difficult enough, but a competi-

tive performance in the weight events, strange to say, is peculiar to itself in this respect. The rules of competition allow only three throws with a weight. An athlete watches his progress from day to day by comparing his best marks in practice, and he is sure to have taken from twenty-five to fifty tries before he concludes that he has reached his limit for that day. When he finds himself limited to three throws in competition he wants to equal the best mark that he has made in practice and, what is more, he fully expects to. The question is, how is he going to do it?

In higher circles of athletics an athlete watches the progress of his competitors by the reports given out in the newspapers. It often happens that a mere misprint in regard to the distance of a certain throw will lead to the defeat of a formerly victorious athlete. He knows his own limit even though he continually hopes for a record throw to be credited to him as the result of some superhuman effort. If the newspaper states the distance "48 feet" when it should have been "43 feet," that little fact is quite likely to unnerve him and cause his downfall. This serves to show that weight-throwing is not entirely a game of skill against skill, but a game of man against man. Bitter experience is the only teacher when it comes to be a game of human nature, but a few "pointers" will help any boy who wants to do his best

when he matches his efforts against others of his class.

An effort to exert the greatest amount of strength when the weights are being thrown accomplishes the least. All of the strength that one can sum up is necessary, but the machinery of the human body is so constructed that all acquired skill will vanish when an extreme effort is made to exert strength. Skill being the first essential, the mind must forever nourish the thought of skill, and must forever be conscious of the part which skill plays in the act. Too much practice and too little serious study will turn the mind from the right direction quicker than anything else. When such a circumstance exists there is just one simple rule to follow — *lay the weights on the shelf and leave them alone.* **A week of abstinence from practice will not hurt any weight-thrower.**

THE RUNNING BROAD-JUMP, THE HIGH-JUMP, AND THE POLE-VAULT

BY JAY B. CAMP

GEORGE CONNORS, who has developed so many athletes at Phillips-Exeter Academy, among them J. P. Jones, always insisted that anybody with two good legs could make good at track. In jumping and vaulting there is no sustained effort to tax the heart or other internal organ, and two normal legs remain the only requirement. Probably many track-men have become acquainted with their specialty when very young, perhaps as early as at ten years of age. There is an advantage in starting at such an age when the proper muscles may be stimulated and natural and correct movements acquired unconsciously. But before college age there are few, I believe, who profit by prolonged concentration, in successive years, on any one of the field-events. As a steady diet, real games like football, baseball, tennis, or golf are preferable preparation for college track. In fact it is only rarely that any boy who has trained seriously in high school reaches more

than mediocrity in college. On the other hand, men with an all-round muscular development often start green in college and make a phenomenal success. The lack of natural ability may be offset by a few years of training, since any type of physique is adaptable to the three field events considered here. Let every one, then, who is not already occupied in some spring training, consider the possibilities of track athletics with the view of giving them a trial.

Broad-jumping, high-jumping, and pole-vaulting are based on the same rhythms and movements, and for that reason are best studied and practised together. The two elements of the broad-jump are spring and speed, i. e. height and carry. Forward momentum at the take-off is to be suddenly transformed into upward motion, and what is not so used up carries the body on out into the pit. The more speed one has at the take-off the harder it is to spring against it high enough to take advantage; and if with less speed it is easier to spring high there may not be enough momentum left to get the benefit of the height. It is the speed that must be subordinated to the spring, however, as in both the other events.

In working at the broad-jump it is well to insure a uniform run by having three marks, which one starts from or touches with the jumping foot. The first one must be ninety



M QUINN JUST LEAVING THE
-OFF. NOTE THE HEIGHT
EADY ATTAINED AND THE
OSITION OF THE BODY.



MERCER OF PENN., INTERCOLLEGIATE CHAMPION IN 1912 AND 1913. NOTE THE HEIGHT ATTAINED, AND THE POSITION OF THE BODY.



ADAMS OF THE NEW YORK
ETIC CLUB JUST BEFORE
LANDING.



THROWING EVERY MUSCLE INTO A FINAL EFFORT TO GAIN DISTANCE BEFORE LANDING.

THE BROAD JUMP



feet or more, and the last between forty and fifty-five feet from the take-off. The one indispensable feature is a steady stride which always lands the foot squarely on the board, a connection which must be made so automatically that no uncertainty can slow up the approach. Accelerate your pace evenly over every mark, gathering speed up to the last four strides, when you begin to coast a little as you gather all your forces for the last supreme effort. From the shortest mark should be done the regular practising for height and spring, with a hurdle in the pit about six feet or less from the board. In taking-off, one springs up the short side of a right-angled triangle whose hypothenuse is the ground, and slides down the long side into the pit. The rise should be at an angle of about sixty degrees with the ground, and the hurdle is a help in working up to so abrupt a change of direction. The spring is largely controlled in the last long crouching stride, from which you straighten up with a lift of the back, arm-swing, and sudden kick. This kick nearly splits the non-jumping leg from its mate; but the latter chases along behind as best it can until the man behind the legs lifts them both to his chest to add the last inches to the distance.

The mechanical basis of the art of high-jumping is the so-called hitch-kick. In the following directions a left-footed jumper only will

be considered, for briefness, and right-footed jumpers must reverse all the lefts and rights. Whichever foot one puts over a hurdle first, or punts a football with, is sure to be the best for the non-jumping foot. Both these exercises, especially the latter, are splendid for high-jumpers. To learn the hitch-kick, stand on the jumping foot, with the other, the right, balanced eighteen inches off the ground. Spring up and down on the toes of the right foot until you can do it energetically without thinking. Now add a kick up to the spring of the right foot, and get it back to ground before the left foot can come down from its perch. When you can put lots of style into this performance try it on a little jump into the pit, without a cross-bar, and without a turn. In this way one lands facing forward, and on the jumping foot. Practise this also with the cross-bar from one to three feet high and don't be afraid to hit the ground tail first. Even when you can kick the jumping foot higher than your head, from a stand, and bring it down on the same spot, while the other leg is left shoulder high in full flight, don't fool yourself into thinking that you have practised this enough. Mike Sweeney, whose jump of six feet six, made with a simple hitch-kick form, was the world's record for twenty years, was equally supreme at high-kicking. In this figure the jumping foot strikes the bar or target and gets back to earth before the other, although

generally an instant later than the back of one's neck. The jig movements which the other leg does in the air, in the meantime, are rather amusing after one has succeeded in understanding them. Besides high-kicking, both standing high and broad jumping are excellent practice for the running high-jump. For a standing high-jump one crouches with the side toward the bar and jumps off both feet, at the same time swinging the arms up hard and lifting the back. The scissor-kick over the bar is to be extended into a hitch-kick as much as possible. If you hit the ground flat on your back it will help you to realize how you cleared the bar, i. e. with the back down and horizontal. This is called a lay-out. Every ordinarily good jumper clears the bar with this lay-out, the body showing a straight line from knees to shoulder which is parallel to the ground. Generally, though not always, the back is parallel to the cross-bar and flat to the ground, at the moment of clearance.

Whatever form you may use now is sure to be different before you jump very much higher, so that you will do well to start practising right on the correct basic form described here. Start with a wide sidewise run and the old-fashioned scissor-kick. Snapping the left or last leg over and down before the other gets to ground will shift the scissor over into a hitch-kick. Make sure of that lay-out at the

cost of a hundred falls if necessary, as the injury to your back is less permanent than the damage to your form if you clear the bar sitting up or doubled forward. Keep trying a more direct approach of the bar, until you run at it at right angles. In the last two strides you may cut across to your left, but it is better to take only one swerving step, that is on the very last stride. This toeing-out to the left allows the non-jumping or kicking leg a longer swing so that more power is available for the hitch-kick. In punting a football the kicker does this same thing to increase the reach and speed of the kicking foot. With the aid of the hitch-kick this shift of direction on the last stride will wheel the body enough in the air to bring it parallel to the bar, so that one comes down sidewise to the bar or facing it. Don't try consciously for a turn, as the less you get the better. Face the bar squarely as you spring, with no twist in the waist or hips. It is permissible after the body has fully cleared to twist down on to the feet and avoid sprawling backwards into the pit. Even then it helps the jump not at all.

The test of a high-jumper is his run. Only one style of stride will fit, and this must be acquired by those who, unfortunately, do not have it naturally. It is made up of a succession of bounds, which do not take the runner up into the air but nearer the ground, and very



THE LATE WILLIAM E. QUINN, FIELD COACH OF HARVARD, CLEARING SIX FEET IN PERFECT STYLE.



OVER SIX FEET IN INTERCOLLEGIATES.

THE HIGH JUMP



smoothly forward. You strike on the heels first, but not flat-footed, since you roll across the foot from heel to toe and off, allowing the knee to bend decidedly as the weight passes directly over the foot. Approach the bar with eyes on the ground under it, as though you were sneaking to a position for a shot at a deer. This rolling character of the run is closely duplicated in the vaulting and broad-jumping run, though the sneaking into each crouched stride and rising elastically out of it, is much less noticeable than here described, and has little up and down motion and more forward impetus.

The marks for the approach are best adjusted so that the first mark is about twenty feet back of the main mark, which is itself exactly four good long running strides from the spot where the last foot leaves the ground. As you run easily over the main mark take from it a high-step which is twelve to eighteen inches longer than the normal stride. The recovery from this hop is the most difficult detail of the run. This high-step is long rather than high, but not so long that you cannot alight from it with the weight well over the forward leg, and slide into the next stride with no perceptible loss of speed. The second and third strides from the main mark gather speed. In the fourth and last stride you plant your left foot so far ahead of you, and well toed out, that you

are pretty well down near the ground, as if doing the split. The right leg shoves off as strongly as it can to start its kick, and the back, leg and opposite arm swing up together. The whole leg from the waist down, but most especially the knee, bears the burden of such a jump, which has been described as running against and bouncing off one's leg. As in the broad-jump the speed must be reduced so that it does not kill the spring. However, most fellows fail to realize the full strength of their leg, as they lack the confidence and fight to run in hard and still get away with a good jump. A powerful man is really not able to run fast enough to develop the full recoil resistance of his jumping leg, provided his form is natural enough so that it will not break down under pressure.

There are many different styles of jumping and the most conspicuous jumpers often have the most specialized form. None but a specially gifted man can hope to succeed without the continual aid of a really expert coach. No finished form exists which can have a better beginning than the simple and physically correct jump outlined above. This very outline will fit approximately the special details of the form practised by practically every man who has jumped six feet. A beginner must avoid freak specialties and acquire those good habits which will in the end adapt themselves advantageously to what eccentricities he may develop.

Pole-Vaulting

Pole-vaulting is an art most readily mastered by a good hurdler, broad-jumper, or high-jumper, in the same way that a good vaulter has also an aptitude for the last-named events. Brute strength is not worth its weight, although many powerful fellows weighing over one hundred and sixty pounds must be conceded to be of championship caliber. In any case agility is indispensable, and it is a general rule that successful vaulters have previously shown class at some other sport. R. A. Gardner, of Yale, was U. S. Amateur Golf Champion before he won the Intercollegiate pole-vault. Babcock, of Columbia, was a high-jumper and broad-jumper on the N. Y. A. C. team before he competed as a vaulter and won the Intercollegiate and Olympic championships. None who cannot perform creditably at some other field event or sport are likely to meet with success at pole-vaulting.

Of the two distinct styles of vaulting the most elementary is the easiest beginning for a novice. This consists in not shifting the hands from the position they hold when running down to the take-off. Bill Quinn, late field-events coach at Harvard, said of this that it would teach a man more than most coaches could. Although many coaches as well as candidates neglect it, the exercise of vaulting without shifting the lower hand is the most valuable of all

practice stunts. Both novice and expert should practice this way regularly, as here described. It is taken for granted that every one vaults off his left foot, holding the pole on the right side when running. It is best to be content with a six-foot height at first, and have a regular practice mark of 35 to 40 feet from the hole. Hold the pole low, at arm's length on the right side, gripping tightly with the hands about thirty inches apart and thumbs toward the upper end of pole. In the last two strides swing the pole out ahead from the side and let it slide along the ground into the socket, and quickly swing the arms over the head in a wide upward curve. Very little energy or speed need go into the run, as the whole thing is the spring up under the pole. On springing, shove down into and against the pole as if to bend it double. While the lower arm shoves desperately and the upper or right is braced for a pull, the body lifts itself against this fulcrum so that the chest grazes the pole, and the thighs, closely doubled up, slide along it. The muscles connecting the shoulders and torso are the ones which do the work, and they alone have license to tire soon. A full lift without any twist whatsoever will turn the back up and the belly down over the bar, when the handstand on the pole is completed. In the last minute lift with back and arms into a close jack-knife, with the knees near the chin and the cross-bar in between, and



P CLEARING 12 FEET AT
MPIC TRY-OUTS, JUNE,
FOR THIRD PLACE.



WAGONER OF YALE, FORMER INTER-
COLLEGIATE RECORD-HOLDER,
POISING HIS POLE BEFORE
STARTING HIS RUN.



OF HARVARD, CAMP TIED
ST PLACE IN THE INTER-
LEGIATES OF 1914.



WAGONER OVER 12 FEET, 6 INCHES.



shove off clear. In this exercise, as in all other practice work and vaulting at low heights, the standards should be set a foot or more back from the hole in order to give distance as well as height and to encourage a very long swing and a delayed but sharp pull-up. This is in the nature of advance preparation for the greater heights.

Elaborate coaching is confusing to a beginner, who starts worrying when he is on top of the cross-bar about what he has been told to do, and forgets what he is then about and makes some new blunder. Of course those rare candidates who stop to think before they vault, and having everything settled in their heads then give their whole souls to the deed, are material for future champions. However, vaulting itself is of little use to most men for unvaried practice, and the simplest way to court improvement is in the repetition of foolish isolated exercises until the separate elements are introduced as habits into the general vaulting. Of these, the first and last is vaulting without a shift, which is, indeed, of little help to many because they are so weak in the body and shoulders that it seems hard and they give it up before they can do it well. The second is vaulting with a shift, but without a turn and not using a cross-bar. Use the regular practice mark of 35 to 40 feet and, at first, a hold of only as high as you can reach on the

pole, when it is standing upright in the hole. Run down slowly, and as you are planting the pole in the hole, slide the lower or left hand up close to the right, and extend the pole high above the head before the jumping foot springs off the ground. Swing out at arm's length until nearing the ground and then pull your head up as far as you can along the pole, at the same time clamping this to the stomach and the knees to the chest. Strike the dirt in this position, where you will hit first on your feet, but overbalanced forward. Later with a higher hold and an acute pull after the pole has swung past vertical you may land out beyond the pit, dragging the pole with you and sprawling forward on hands and knees. This exercise may be used with the bar at low heights, but no more than seven feet. It should teach a long free swing and help eliminate the body twist with which so many sloppy vaulters imitate the turn. The impetus of a pull-up that is delayed until the pole has swung through to an inclination of seventy-five degrees angle to the ground, or more, will turn the body instantly through a half revolution, so that the breast faces the bar and one lands facing it. The twin of this may be practised without pit or run, when holding about seven feet up the pole. Plant the pole ahead of you, take a step, and pull up on it until head, knees, and hands are together and the pole is passing by the hips, and stay there

until it has swung on and dropped you, still hunched up, on your feet. The same thing can be done on a climbing pole in a gymnasium, where the German horse and tumbling are also recommended for vaulters. For a good illustration of the movements which follow the pull-up and give the turn, proceed as follows: Grasp the pole with the hands together and the lower end in the hole or against a wall; then squat with back to said hole or wall, and the pole at a ten degree angle with the ground. With head, knees and hands in the same line pull the pole through, past the hips. Pull hard enough to bring yourself to a position facing the hole or wall, and in a direction so that the pole has passed close by your right ear all the while. Exactly this should happen when you vault with the difference of ninety degrees in the plane of the experiment.

After a long swing, a delayed pull-up and a handstand on the pole with jack-knife have been learned, there remains only the detail of handling the pole and getting off the ground smoothly. Indeed in a couple of good years of experience most men master these matters, naturally, and the so-called detail gets to be the whole art of exceeding the present height limit of thirteen feet two and one-quarter inches. When holding high on the pole one enters the vault with the pole only a few degrees away from horizontal or dead-center.

Against the speed of a spirited run it requires quickness and precision to swing the pole up and out of dead center, before the weight of the vaulter crashes head-on against the upward rise of the pole. A strong spring, i. e. the recoil of the body into the air from a braced leg, will assist the pole into its swing. If in addition to this one is dangling at full arm's length, the jar of the change of direction is felt less. A perfect tangent curve from the ground gives the least possible jar, and such a fast swing as will aid the pull-up.

The marks for the run are the same as for the broad-jump, and measured from the hole where the pole lodges. The jumping foot should take-off from a spot exactly under the hands when they are held at the proper point on the pole for the following vault, the pole being in the hole and the arms extended above the head. On every vault watch the mark your foot makes in the dust and test it to see if it is just under your hands as they hold the pole up high. The manner of holding the bamboo for the run is rather important. The hands grasp it loosely, about three feet apart, so that the forward end is pointing up at an angle of thirty degrees. The body must face squarely down the path; the shoulders alone are twisted toward the line of the pole. The right arm is twisted so that the elbow is directly above the pole. This rests against the heel of the palm,

fingers loose. The left shoulder reaches as far forward and to the left as it can go, in order that this elbow may be directly under the pole, which rests between the bent-back first finger and thumb on the palm of the hand. In this fashion one runs practically free of the pole, which balances itself between the palms of the hands. Only the shoulders are askew and the body faces directly forward with no sidewise strain. About three strides from the take-off the pole must be cast ahead spear-fashion, with one hand, and wait in the hole, where it is already swinging up as you take the last stride. As you spring the pole should already be at arm's length, overhead. Failing in this perfection of detail, be sure to shove it up above you as far and as quickly as possible. Don't forget that the whole weight of your body must come against and be sustained by the jumping leg as much as in the broad-jump, or your dead weight against the pole will slow its swing quite hopelessly. To this end the run is down in a crouch, in the last few strides, and one has turned off some of the speed and is coasting while gathering strength for the extra effort of the spring.

A beginner need not worry much with the complicated descriptions here, but with the aid of the exercises go ahead and vault. Improvement inevitably comes very slowly and it is a four or five years' course for a degree of expert. Ten feet or so is all that it is worth while

doing in high school, as without good coaching the higher a fellow goes the worse the faults he develops. The college stars are largely men who have not done eleven feet before they went to college and have started to vault only in the last years or year of preparatory-school.

Training for Jumps

For high school boys, training is a different matter than for college fellows, especially in the common lack of a really reliable coach. At this age exercise and not training is to be sought. Three days a week is the maximum limit for practice, of which only one may be used for competition of any kind. For college men, four days is the most to be desired. No broad-jumper should jump more than twice a week, although at this event as at the others there should be a liberal mixture of various exercise for its own sake. Sprinting, hurdling, and long jogs after practice should be a regular part of the early season work, but as the meets come along, absolutely all exercise beyond the limited practice of one's special event should gradually be abandoned for absolute rest. Before and after a meet as well there ought to be a rest of two days at least. This is because the field events exhaust little muscular energy but a great deal of nervous force, which can be replaced and accumulated only by inaction. For

the same reason strict training beyond enough sleep and decent care of the diet is inadvisable.

One has to take particular pains with the way he performs in a meet. Many capable men fail to show when they get where there is a little excitement. It is best to look forward to meets as little as possible, and, even when on the point of jumping, to think as little as may be of the crowd of spectators and how badly you want to beat your opponent. This is the crucial time for concentration of every faculty on the jump itself. As you stand ready to leave the mark, take a full minute to visualize your whole action. Imagine it all so keenly that you can feel in your muscles what each one is doing as you seem to feel yourself clearing the bar. Don't start until every muscle has repeated satisfactorily the message you sent it. Entertain no doubts or fears at this time, but only the sensations of jumping or vaulting. In this way one leaves the mark with the whole body intent on its duty, and the mind a blank except for a feeling of tension. Watch against checking or forcing the run because of excitement. This system may make your head tired but it avoids perplexity of head or muscles. One must eliminate all personal emotion to concentrate on his performance as on a mathematical problem. Worrying as to how high the opponent will go, wishing him a failure on his attempt, thinking of the reward of victory or defeat: all these

lessen one's own efficiency. To be cheerful and care-free between jumps, to be indifferent to the triumphs and the failures, is to really enjoy the sport as such. It leaves pleasanter memories and, win, lose, or draw, makes the sport worth the candle.

THE OLYMPIC GAMES OF 1912



THE OLYMPIC GAMES OF 1912

BY RALPH C. CRAIG

THE try-outs for the 1912 Olympic team were held in three sections of the country — one in Boston, one in Chicago, and one in San Francisco. In this way a candidate for the team competed against all of the best athletes in the United States. The records of these three try-outs, with proper allowances for weather conditions, and so forth, were the basis for the team selection committee. This committee had a hard, thankless job, but when, after hours of hard work, they announced the selections for the Olympic team, every one agreed that they had done their work remarkably well.

The lucky athletes who were chosen by the committee were notified of that fact on Tuesday, June 11th, and given instructions about the various meetings to organize the team, the most important of which was held at the New York Athletic Club the evening before the team sailed. Then for the first time we realized that we were a team representing the United States. Before this time we had been a number of individuals working for ourselves and competing for ourselves to make the team, but at this first

meeting of the team we realized that now we all went to make up one unit, one body of men picked from one hundred million people to represent them at a contest with all the nations of the world. It gave us a very different sort of feeling and made us realize the responsibility that rested upon us; that we must not only do our best in an athletic way, but that we must represent our country all of the time we were there. If we won, to win in a decent sort of a way; if we lost, to lose like men, but all of the time to show the different nations who were congregated there that we were American gentlemen.

At this meeting the Olympic Games first began to have a real meaning to us. Previous to this time the try-outs had been the big thing, and the Olympic Games only a hoped-for possibility, but now that the try-outs were over, we came into sight of our real aim. The mere fact of being with a large body of men and boys who had been picked from all over the country for the same purpose, who had been working, all unknown to one another, for the same thing, was an inspiration in itself, and where it had seemed work before, we began to see where it would be a pleasure to get out and train.

We had a very good example of determination to follow before we had lost sight of Sandy Hook. Soon after the ship left the dock a fifteen-year-old American boy had been dis-

covered, " stowed away " in one of the life-boats. The captain, of course, ordered him sent ashore with the pilot. Colonel Thompson, the president of the American committee, heard of it just as the boy was going down the ladder and immediately rushed forward and offered to pay the boy's passage. This was done and ' Shorty," as he came to be known, was made mascot of the team. His home was in Toledo, Ohio, and having made up his mind to see the Olympic Games, he had worked his way to New York and stowed away on the *Finland*. It is not a thing that I would advise any American boy to do, but having made up his mind to do it, Shorty showed great pluck and determination in carrying out his decision.

Conveniences on Shipboard

Every possible provision had been made by the committee to make the most of the trip. Of course, on such a trip an athlete cannot do his best training. The decks are so hard that even ordinary work-outs make the muscles of the legs very sore. To help obviate this a cork track had been laid all along one side of the deck. This made things much better, but still hard work was out of the question. The other branches of sports had also been provided for. Swimming-tanks had been swung out over the deck for the swimming team; a swinging target

hung for the revolver team; armor-steel backs for the rifle targets; home trainers for the bicycle riders; hanging ropes and bars for the pole-vaulters; and the one tennis player on board had a wooden backstop set up on the aft deck. This was a rather expensive practice, though, as his daily average of lost balls was about three or four.

With such splendid arrangements and the unusually good weather we enjoyed, there was something going on all day long in the line of training. The runners were divided into squads, one working in the morning and the other in the afternoon, and cries of "Track," "Track," could be heard as they came around the deck. The revolver team was at it morning and afternoon, but as they practised away aft, they did not bother any one, but the rifle team on the boat deck were a great nuisance. They would tire of firing at their targets and practise on the wave-tops. To the people on the promenade deck the reports of the rifles fired over the edge sounded like twelve-inch guns, and the rifle team was nearly mobbed on several occasions after long-continued wave practice.

The weight men practised on any cleared spots on the deck. The bunch of discus-throwers showed some American ingenuity and threw the discus out into the ocean with a rope attached. This scheme was very satisfactory

in theory, but the discus would not " sail " and so it had to be given up. The fencing team could be stumbled over in almost any odd corner of the boat, and the swimming-tank was always a center of attraction.

There was a large crowd at the pier at Stockholm to meet us and we were officially welcomed to Sweden by a committee of prominent men, the entire Swedish track team and several other Swedish organizations.

The Swedish track team under the leadership of " Ernie " Hjertberg sang several American songs and ended with the Swedish national anthem.

Their welcome, as they afterwards demonstrated, was not merely a word welcome, but they were all genuinely glad to see us and they could not do enough for us. This was shown by innumerable incidents that are very interesting as they show the natural courtesy of the Swedes and the high regard they have for the Americans.

At the meet itself, if the Swedes could not win an event, they were cheering for the Americans and any American win was loudly applauded.

The Opening of the Games

The solemn opening of the Olympic Games of 1912 was a most interesting occasion. All

of the competing athletes marched into the Stadium and were marshaled before the king. In a brief speech we were made welcome to Sweden, and the games officially declared opened. Then we marched past the royal box and saluted the king as we went out.

It was an impressive occasion. The various teams were in their official uniforms and the American team made a very creditable showing. We had drilled on the *Finland* for nearly a week, so the team marched by with some semblance of military precision, the blue coats with the shield over the heart, the white trousers, white shoes and straw hats with the shield on the hat band, showing up very well against the more gaudy uniforms of many of the nations.

The first track and field events of the games, the javelin-throw and the hundred-meter dash, came that afternoon, and the time had come for which we had all been working for the past six months. It was probably the biggest meet that any of us would ever go into, but somehow it did not seem bigger or different from any other meet, at that time. We knew that our country was looking toward us to uphold her honor in the events and that made the nervous strain more intense, but the chief thought in most of our minds was the one thought of going out and doing our best.

The strain in the dashes was made greater because of the Olympic ruling which seems to

us very foolish. As every boy knows, there is a penalty for a false start, in this country, of one yard for each break, with disqualification for the third false start. But in the Olympic meets the rule reads that there is no penalty for such a false start.

There seems to be no real reason for such a rule as this, except the matter of custom, and there are many reasons why it should be changed.

In the first place, it makes it much harder for the starter. The men are under a greater nervous strain, and knowing that there is no penalty for a false start, go off at the slightest indication of a move on the part of any of the other competitors. Starting a race in such a meet takes a very experienced man, and even with the penalty of one yard for a false break, it is sometimes hard to get the men off to a good start, but with no penalty it is almost impossible unless the men have confidence, not only in the integrity of the starter, but in his ability and experience.

But the Swedes had shown the same forethought along this line that made the games as a whole such a success, and the starter had been under the careful training of Ernest Hjertberg for nearly two years. He was a very capable and efficient man, and after the boys learned this fact and knew that he was so good that no one would get even the smallest

" lift " on the gun, there was no trouble from false starts.

There were eighteen heats and six semi-finals run off in the hundred meters on that first afternoon, and in nearly all of these there were a number of false starts, and in some cases, as many as eleven or twelve.

One-Hundred-Meter Finals

The finals of the hundred did not come until the second day of the games, but the javelin-throw was finished that first afternoon, the Swedish representative, Lemming, establishing a new world's record. It was very appropriate that Sweden should win the first event of the meet, and every one on the American team was very much pleased.

The excitement which followed the running up of the Swedish flag for first place was intense. A steady roar of individual yelling kept up for nearly ten minutes, and then the crowd " got together " and yelled for every one and everything that could possibly be connected with the event, their R-r-rah! R-r-rah! R-r-rah! R-r-rah! sounding much like one of our college yells.

The finals in the hundred meters came on the second day of the meet, and it was the first final of the track events. There were five men in this race, four Americans and the South African

Patching, who had just won the British championships in record time. The men took their marks, and on the second start the pistol was fired. We all got away, but when part way down the course, heard a medley of whistles, bells and revolver shots. Three of the men stopped, but Lippincott and I were taking no chances and ran through the entire course only to learn that Lippincott had beaten the gun and that we must start again.

We were all very nervous after that and it took a few more starts to get us away to an even break. When the judges turned in their decision we learned that the South African had been shut out and three American flags were run up above the Stadium, where they floated proudly in the air high above the banners of the thirty nations who were represented at Stockholm.

In all, this occurred five times, an unheard-of thing before the 1912 games. At nearly all of the previous meets one or two nations had swept the field in one event, but never before had one nation taken all three places in five different events. These five events were the one hundred meters, eight hundred meters, pole-vault, high hurdles and best hand shotput.

The competitors in the dashes had little opportunity to see many of the early events at the games, for, until their events were over, they had orders to stay on the boat except when

they were at the Stadium for their own races. While we did miss seeing many of the events, that was not what we went over for, and we were all satisfied to do everything that we possibly could to be in the best shape for our own races.

The finals of the eight hundred meters brought out a remarkable field of runners and it, too, resulted in a clean sweep for the United States with the three men so close that a handkerchief could have covered them all, the winner, Ted Meredith, being a twenty-year-old schoolboy from Mercersberg Academy. It was a truly remarkable race, as all three men were well under the previous world's record for the event.

Eight hundred meters is a little less than a half mile, but the men continued to the half mile mark to establish a new world's record for that distance.

The examples of Meredith and Lippincott show that schoolboys and freshmen in college have a chance to make this team and that in many cases they are as good athletes as the men who have had more experience. Lippincott was a boy eighteen years old, and a freshman in the University of Pennsylvania. He did not sacrifice his studies for athletics, as there are very few boys who get to college before they are seventeen years old. Meredith spent several years in a trade school before de-

ciding to go to college, but his standing in his school work has always been high.

The Marathon

The Marathon is always one of the most exciting events of the games and this year it was no exception. The Stadium was packed long before the event was scheduled and when the runners came out on the field there was a great deal of enthusiasm. The Swedes, while they are not as enthusiastic naturally as the Americans, are more so than many of the European nations and it is not considered bad form to cheer.

The Marathon course this year was not straight-away, as it usually has been, but it was an out-and-back course, the men running out to a station about thirteen miles from the Stadium and returning by the same route to the Stadium. There were reporting stations at intervals of about four miles and reports were wired in to the Stadium as the men passed each station. These were announced to the crowds and on a miniature flagpole the flags of the first six men were run up in the order running.

The race takes nearly two hours and a half and the excitement and suspense gets worse every minute. To the crowds in the American section it was not very encouraging to get no report from any of the American runners, after

the first few stations, and to see six foreign flags run up for each station report. But we were not discouraged as we had a great deal of faith in our American team, and when on the last report an American was running fifth, we began really to have some hope that we might win the event.

Long before the men could possibly be anywhere near their goal, the crowds grew very quiet and every eye was turned towards the arch, through which the men must enter the Stadium. When the bugle from outside announced that the first man was in sight, everything was so still that you could have heard the proverbial pin drop. No one knew what colors could be seen first and every one was hoping that it would be those of his own country. So great were those hopes that when MacArthur in the green and brown of South Africa came trotting in, there was an absolute silence. This was broken almost immediately by wild yells from the small crowd of South Africans, and the other nations forgot their disappointment enough to cheer loudly for the plucky runner, who was moving slowly around the Stadium. About one hundred yards from the finish one of the officials slipped a large wreath over his head and shoulder. This seemed to bring forth his last bit of reserve and he came on faster, and where his pace had been little faster than a walk it became a slow dog-trot.

After he crossed the line his legs would not support him and he fell on the soft grass, but in ten minutes he was all right again and able to walk off the field.

The second man, another South African, finished about a minute later, and the third man was an American. From then on, the red, white and blue shield came into the stadium in rapid-fire order, and out of the first seventeen men, ten were Americans. So even though we did not win the individual honors, our team as a whole made a splendid showing.

The games as a whole were very efficiently conducted. This was due to the careful organization and planning on the part of the Swedish committee, who started to work as soon as the games were awarded to Sweden in 1908. In 1910 they engaged Mr. Ernest Hjertberg, a native of Sweden, but who had lived most of his life in New York and who was at that time coach of the Irish-American Athletic Club, and it was his knowledge of how a modern meet should be conducted that enabled Sweden to have such a well-conducted meet.

One of the great aids of the actual conducting of the meet was the Boy Scouts of Sweden. Details of the Scouts were in constant attendance at the games and they helped very materially in the smooth operation of the meet, and when the meet is again held in Sweden in about twenty years or so, these boys will be the men

who are managing the meet, and the experience that they have had will be a great help to them at that time.

The winners on the American team were not from any particular class of Americans, but they were schoolboys, college students, business men, engineers, policemen, and from nearly every branch of American life. They were typically representative Americans.

The English papers may talk of specialization and other reasons why their team was not successful, but the real reasons for the American success were, first, in the careful organization of the committee in charge of the American team. This committee went at the matter with the idea that what was worth doing was worth doing well. They started early in the winter to get the financial backing, which in itself was a big undertaking; they notified all athletes who would have any chance of representing America, urging them to get out and train, and giving them information about the meet, the entries, and so forth.

Secondly, the men on the American team went in for it with the idea of doing their best. In order to do this and to represent their country worthily, there were certain sacrifices that they had to make. They must give up a lot of their time to hard training; they must give up smoking if that was one of their pleasures; and they must lead a careful, regular life for sev-

eral months in order to be in condition to do their best.

This was all possible because of our American spirit. When we make up our minds that we are going to do a thing we set to work to plan and prepare for it and then with a good preparation the battle is half won.

However much the English newspapers may cry about American specialization and American methods, and seem to show England up as a poor loser, the English athletes were a fine lot of men and boys — in fact all of the teams were splendid representatives of their various nations — and the best of feeling prevailed. There is a friendly feeling about athletic contests and though the rivalry may be keen and during a contest every nerve is strained to win, there is no bitterness shown and when the contest is over the men in it are much better friends than before. This is one of the greatest things about the Olympic meet and one of the things which makes it very much worth while. It is more valuable than all the peace conferences in the world. Everything is open and above-board, and the element of real friendship enters.

The huge banquet given for the contestants in the Stadium was a splendid example of the good feeling which prevailed. Nearly two thousand of the contestants and committeemen sat down in the Stadium to a banquet. The

seats of the Stadium were crowded with spectators who came not so much "to hear" the athletes eat as to see the entertainment which was provided for them. And it was well worth coming for: a chorus of 3,000 men's voices gave a number of Swedish songs, there were addresses by the king and the crown prince, both of whom spoke in English, and Baron Courbertain, the founder of the modern Olympic games. The rest of the evening was given over to fireworks and a general good time. The various nations were grouped and some team was yelling for one of the others all of the time.

The Finns made one of the liveliest crowds on the field, and they more nearly resembled our college students than any one else we saw. A large group of them went around singing and whenever they met any one who had been successful in the meet, they would capture him and lay him out on the ground and pick him up. When he was resting on their hands over their heads, they would toss him in the air, similar to our tossing in a blanket, except that there was no blanket, and the unlucky victim would come down on their hands only to go up again. Size was no bar to their sport, and Ralph Rose and Pat MacDonald both were tossed, as well as a large number of others.

The teams all intermingled and it was not at all uncommon to see a group of several different nationalities talking together, and in this

nearly every other nation is more accomplished than we Americans, for many of the athletes spoke comparatively good English, while there were very few Americans who could make themselves understood in anything else but good old U. S. A.

The *Finland* left at twelve-thirty next day. A crowd of over five thousand people gathered to see us off and practically every one stayed from six until the boat actually left. In fact, the crowd seemed to get larger instead of smaller and finally, when we did go, it was with the good wishes of every one on the pier.

So the Olympic Games ended for us, and it is an experience which we, who were on the team, will never forget. We shall always be able to look back on the friends we made from all over our own country, who were our comrades on the team, and the friends we made who did not have the good fortune to be born under the Stars and Stripes.



BASEBALL



SCIENCE VS. SKILL IN BASEBALL

BY IRVING E. SANBORN

Tricks That Are Fair and Unfair

Ever since baseball began to be governed by rules there has been constant warfare among the players, or active participants in the sport, and its rule-makers, or passive guardians. The playing rules of to-day are studded with regulations and clauses designed to correct abuses or to prohibit tricks which were unfair.

No sooner is a new rule added to the list than the players begin to sit up nights trying to devise ways and means to beat it. All summer long shrewd brains of managers and their assistants are figuring methods to gain advantages over an opponent without transgressing the letter of the law. All winter long the club owners scheme to frame new rules or new wordings of old ones to frustrate attempts at unfairness. Therein lies one element of the game's continued success. The brainy players keep baseball progressing toward greater perfection, while the governing board of rule-makers prevents fastening on the sport any

shrewd trick which would mar it in the eyes of the public, all the while permitting the science of the inside game to develop along legitimate lines.

Not to go too far back into history, the rules used to forbid a substitute taking the place of a man in the game except in case of accident. That may sound odd to the younger generation, accustomed to see managers change pitchers at will and send in relays of substitute batsmen. In those days if a pitcher was batted hard his team had to take its medicine, but as few teams were well supplied with pitchers it did not matter much. Before long, as pitchers became more plentiful, the plan was devised of having a pitcher feign injury when a change was desired, and many a twirler used to wrench his ankle so severely sliding into a base that he had to be carried off the field. But once out of sight of the umpire the cripple (?) would start on the run for the clubhouse. After a few of these injured pitchers showed up in the box again for the following game the patrons mistrusted the ruse and resented it. That was the cause of the rule permitting a manager to substitute a player at any time. No sooner was that rule made than bright minds tried to beat it, and thereby hangs a story which, although often told, no amount of repetition can spoil.

" Mike " Kelly, one of the famous " $10,000 beauties " sold by Chicago to Boston, was the

hero of the tale. He accepted the new rule about substitutes literally. One day when Flint was behind the bat an opposing batsman hit a foul fly which was coming down near the Chicago bench. Flint could not get near it. Kelly, who was captain of the team, was sitting on the bench, so he yelled to Flint: "You are out of the game, and I am in it," then jumped up and caught the foul. The umpire would not allow the play, the game was protested and the umpire's decision was upheld.

The balk rules are another and more prolific cause of trouble and trickery. Down at the rock-bottom of things a balk is any act of the pitcher which deceives the baserunner into thinking the ball is going to be delivered to the plate when it is not. In actual practice, however, it has been found that, if a pitcher is not permitted to deceive the runner to some extent, it is almost impossible to keep a fast man from stealing bases. If the rules were rigidly enforced a man who reached first base would immediately proceed to third too frequently for good sport.

It is a popular misapprehension that all bases are stolen off the catchers, but they are powerless to prevent a fast runner stealing second base unless the pitchers help by "holding up" the runners. The difference between a successful steal and being thrown out at second is all in getting the lead. Of course, the

catcher sometimes makes bad throws or drops the ball, but in general the average catcher has better than an even chance to throw out the average runner unless the pitcher allows him too long a lead off first base. When a runner steals third it almost always is the fault of the pitcher.

It is to prevent stealing that the pitcher throws to bases to drive the runner back, not so much with the idea of catching a runner napping (as occasionally happens) as of making him more cautious. For the same purpose the pitcher practises and tries to perfect a "motion," as it is called. By this is really meant a balk, because its purpose is to deceive the runner and keep him in doubt as long as possible as to whether the ball is going to be delivered to the plate or thrown to the base. And it is necessary that this "motion" pass muster with the umpires by observing the letter of the rules.

Left-handed pitchers have the advantage in this respect, because they can watch the runner more closely while facing first base, and because of their peculiar delivery compared to that of the right-hander. But an old-time right-hander, named Vickery, had perfected the trick of stepping toward the plate or toward first base at will when he started his "motion," and by this means he had the runners seriously worried. After several years of constant

watching one of his opponents discovered that when Vickery intended to throw to first base he kept his heels close together on the slab, but when he intended to pitch he stood with his heels apart. After the knowledge of this habit became general in the league he seldom caught a runner, and they stole many bases on him.

When Frank Smith came to the White Sox from Birmingham he had everything to make a winner except that he could not keep the runners from taking long leads. Base-stealing was easy for his opponents, and one day, after holding a team to a few hits and being defeated by baserunning, he blamed his catcher for losing the game. Owner Comiskey heard of this, summoned the pitcher to his private office and asked him if it was true. Smith admitted it, whereupon the magnate said:

"I have already given your catcher a call-down, but not for losing the game. He disobeyed my orders. I told him the next time he caught when you were pitching, if a runner on first started to steal second he must throw to third to head him off. But he disobeyed me and kept throwing to second without a chance to get any one there."

The pitcher sulked for a while but spent all the next winter and spring learning to pitch without tipping the runner off where the ball was going, and when the next championship season began he caught a dozen runners nap-

ping before they would believe he had acquired a "motion."

Some tricks have been attempted which were so manifestly unfair that they have been suppressed on the spot without resorting to special rules to forbid them. Not all of these were as barefaced, however, as a scheme which the Bloomington team worked some years ago on its old grounds. Left field was short and sloped off sharply to a lower level in which was located a pond which was out of sight of the rest of the playing field. It was not unusual for a ball which was hit over or past the left fielder to go into the water, in which case the batter made a home run. Edward Goeckel, later an umpire in the Chicago league, was arbitrating a series in Bloomington in those days, and noticed that the visiting team never seemed to hit anything into that pond, but every time the ball went over the slope it would be rescued in time to hold the batter on second or third, while the home team hit the pond several times. But he attributed that to the luck of baseball. In the final game of the series, near its end, the score was tied when one of the visiting players hit a long, high fly over left field. The fielder ran down out of sight after it, and as the ball came down it landed on the fly in the pond with such force that the splash of the water could be seen plainly from the home plate. Before the runner reached third base, however, the ball came

back up over the hill, and the shortstop relayed it to the plate in time to cut off the run. In surprise Goeckel took the ball from the catcher and found it was absolutely dry. The home team had a cache of balls hidden down there in the grass where the fielder could find them and throw in a substitute every time a visitor made a hit into the water.

Returning to the more legitimate schemes of players to outwit the rule-makers the history of the "trapped ball" or "infield fly" rule is interesting. A long time ago it was discovered that, if there were runners on first and second bases with no one out, or only one out, and the batsman hit a pop fly to an infielder, that infielder had the baserunners at his mercy. He could muff the fly, forcing both runners off their bases, and make a double play on them by quick work. Or, if the runners expected the trick and started to run, the infielder could catch the fly, thereby retiring the batsman, and then double up one of the runners before he could get back to his base. So many infielders became proficient in this trick that a double play was practically certain every time an infield fly was hit under those circumstances.

To prevent this the club owners framed a rule that the batsman was out on an infield fly whenever first base was occupied with less than two out, but after a brief trial it was found that no double play could be made on

such a fly if there was a runner on first base only, provided the batsman ran to first as he should. Consequently the rule was modified, making it necessary, as is the case now, to have runners on both first and second bases before the batsman was automatically out on an infield fly.

When first framed this rule did not define an infield fly, and that famous pair of "heavenly twins," as they were called, — Hugh Duffy, later manager of the White Sox, and "Tom" McCarthy, now in business in Boston, — evolved a plan to beat the new rule. They were playing together in the outfield of the Boston team which won so many National league championships. Any time an opposing batsman hit an infield fly with less than two out and runners on first and second, if either Duffy or McCarthy could run in far enough to get under the fly they would do so, even if the ball came down near the diamond. Then they would muff it and double up both of the baserunners on the claim that it was not an infield fly, because handled by an outfielder. But before another season came around the rule-makers got busy and changed the rule so as to define an infield fly as one that "can be handled by an infielder," and made the umpire the judge. This prevented Duffy and McCarthy from coming in to "trap" flies near the diamond, but that Boston pair used to work the trick occasionally on short outfield

flies which could not "be handled by an infielder," and by fast work they could pull off double plays on unwary baserunners. That play can be made to-day, just as they did it, but is seldom attempted.

There is a pretty general misapprehension among patrons concerning some of the rules, and frequently umpires are "roasted" for not allowing tricks which are forbidden by the rules, while other plays are branded as tricks, although they are perfectly legitimate according to the spirit as well as the letter of the law. Probably a great majority of baseball readers believe the famous Merkle play, by which the Cubs escaped defeat in New York, getting a drawn game instead, and then won the pennant by winning the play off of that draw, was a trick play worked on Merkle by John Evers. It was nothing more or less than the application of a rule which is seen in operation in every game, sometimes a dozen times a day. It is section 11 of rule 56, and I will quote the part of it which applies:

"If, when the batsman becomes a baserunner, the first base, or the first and second bases, or the first, second and third bases be occupied, any baserunner so occupying a base shall cease to be entitled to hold it, and may be put out at the next base in the same manner as in running to first base, or by being touched with the ball in the hands of a fielder at any

time before any baserunner following him in the batting order be put out."

Probably every one remembers the play which decided a pennant. In the last half of the ninth inning, with two men out, McCormick was on third, Merkle on first, and the score tied. Bridwell made a safe hit over second base. McCormick ran home with the winning run and Bridwell touched first base, but Merkle started for the clubhouse back of right field as soon as he saw the hit go safe, forgetting that he could be forced at second base " at any time " before Bridwell was put out, according to that section 11.

Evers realized Merkle's blunder instantly and called for the ball. Several Giants saw the danger and tried to keep Evers from getting the ball and touching second, but he finally succeeded. That made the third out a force-out and wiped out McCormick's run, since none can score on a play in which the third out in an inning is forced. That left the game tied and it was so declared by Umpire O'Day and later by the league's directors, with the result well remembered.

If any one still fails to grasp the idea, suppose that, with McCormick on third, Merkle on first, and two out, Evers had been able to cut off Bridwell's hit over second and to toss the ball to Tinker in time to force Merkle out. No one familiar with baseball would expect Mc-

Cormick's run to count on that play. Suppose, again, that with the same men on the same bases Bridwell had hit an easy fly to centerfield but that the fly had been muffed. That slip would have let McCormick score from third, but if the centerfielder could recover the muffed ball and throw to second before Merkle could get there the side would be retired on a force-out and the run could not count.

The rule which applies in these two hypothetical cases was the one by which Evers saved a pennant for Chicago. Three inconspicuous words in that rule decided a championship. Evers knew the rule by heart, but Merkle's failure to grasp the significance of those three words — "at any time" — cost the New York club, his fellow-players, and Merkle himself thousands of dollars.

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ball world. Nine out of every ten youngsters, who start playing ball with each other, want to shine as pitchers. The day on which he thinks he has mastered the art of curving a ball is one of the happiest in the average athletic boy's life; the day when he can prove it to his playmates or elders is one of the proudest. Nine out of every ten want to become Christy Mathewsons or Ed Walshs. The tenth boy aspires to be a Ty Cobb or a Lajoie.

The result has been a steadily increasing crop of "near" Mathewsons and "near" Walshs, and a decreased supply of batsmen anywhere nearly in the same class with Lajoie or Wagner. This is not altogether the fault of the boys of to-day. Almost as soon as they begin to read baseball they read praises of this or that great pitcher in nearly every paper. Before they can read they hear about pitchers and unusual pitching feats. The newspapers exalt the pitching end of the game. The pitcher is hailed as victor and often is blamed for defeat. In the official records of baseball he is given credit for so many games "won" during a season and is charged with so many games "lost." Start an argument over the best pitcher in the world and it will wind up with the statement that "so and so must be because he won the most games," or the highest percentage of games in a season.

No more false standard of comparison could

be devised. Mathewson might have pitched for years with the present Boston National League team without achieving one-third the reputation he now enjoys. He would have been just as good a pitcher, although he would have won less than half as many games in a year and never would have been the hero of a world's series. The same is true of Walsh. Only in comparatively limited fields would either have achieved greatness without teams and managers to win games for them. A pitcher might shut out an opposing team for forty-six innings yet be denied victory unless his own team scored a run. And to make runs, by which victories are won, requires batsmen. There are no records kept of the number of games won in a season by Lajoie's bat or by Ty Cobb's. These stars, and men like them, have won many a game for which the pitcher has been given credit by the spectators and in the permanent records. At the end of the season all the batsman has to show for the games he has won is his batting average. If that is not the best or one of the best in the league it creates no loud talk outside of a limited field.

The boy is not to blame, therefore, if when he gets his first chance at a baseball he tries to learn to pitch first of all. But it is all wrong in its results. A young player can be taught almost any part of baseball except batting. He who specializes on pitching at the expense of

batting must become a good pitcher if he plays in the big leagues. Pitchers who have failed as such have made names in the game because they could bat. Mature players have been taught and developed in other positions than those to which they first devoted their attention. The great Walsh was a " made " pitcher to the extent that he had to be made over again, after winning success in a minor league, before he could become a major luminary. Scores of pitchers have been turned into stars of the infield or outfield.

It would seem from this that it ought to be possible to teach a ball player how to bat after he has reached the majors, but no one has been able to do that. Batting is something that must be born in a player, it is claimed. That is not altogether true, but it is an instinct that cannot be taught by any tutor or learned from any books. It can be acquired by a great many more young players than now have it if they will begin early enough. The boy who will buy himself a bat and proceed to hunt up all the other boys of his acquaintance, who want to be pitchers, and let them pitch to him to their hearts' content will instill into himself a lot of batting instinct, even if none of it is born in him. By that early and steady practice he will train his young eyes and brain to the marksmanship which is absolutely necessary to the good batsman. While instincts still are being

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ble, out of every one's reach, so as to stay "in" as long as possible. That in itself is one of the worst habits a boy who wants to be a good ball player can form. If he goes into a strong league with that habit of hitting as hard as he can at the ball, and unable to hit any other way, he will be the easiest kind of a mark for a good pitcher with a head. He may be a wonder as a boy or in the smaller leagues, where experienced pitchers are not encountered every day. But when he comes to face them in every game his average will shrink astonishingly. Unless he gives remarkable promise in other ways the manager will not even try to teach him a different "form" in batting because of the time required and the doubtfulness of the result.

The lad who wants to make his name in baseball stands the best chance of success if he will begin at once to practise batting. Instead of dividing their time between pitching and catching, when two boys get together, they can make more of themselves by dividing it between batting and pitching to each other. And if one of them is ambitious to pitch all the time, while the other boy bats, watch the boy who keeps the bat all the time. He will go farther and higher and stay longer than the one who insists on pitching. This presupposes, of course, that they are fairly matched in athletic ability.

Instead of trying to hit the ball hard, which

is likely to make trouble for the boys if there are people or windows near by, besides wasting a lot of time chasing the ball, let the embryonic batsman practise merely meeting the ball with his bat so as to send it back to the pitcher. Let him try to hit every ball pitched to him in that way. He won't be able to hit all of them at first and they won't all go back to the pitcher, but by standing up near the wall of a building or against a fence it won't delay matters much if he does not hit all of them. The "backstop" will act as catcher. Before long it will surprise him, if he is an observing lad, how many more pitched balls he can hit right back to the pitcher than when he started practising.

In that way the boy will learn a lot about placing hits, since his object will be to hit them to the other boy, no matter how they come to him. Later on he will be better able to hit them "where they ain't," as the players say. He will learn to hit at the ball and meet it in the same way at almost any angle and from any position. He will become versatile and that will give him greater resource and confidence at bat if he ever becomes a professional or college player. The easiest thing in the world is to hit a ball hard, provided one can meet it squarely with the bat. No great strength is required. To meet it squarely is the real secret of batting and the boy who learns only to take a full, hard swing at the ball will not hit it

squarely very often when he faces a versatile pitcher.

As for the glory and the fame the advantages are with the star batsman in the long run. The player who bats above " three hundred " can shine on a tail-end team almost as well as if surrounded by champions. There may be less ambition and incentive, but it all depends upon himself. He can command nearly as large a salary on a second-division team as on a winner. But the pitcher, if it is his misfortune to become part of a tail-end team, will have his real worth recognized only by those who make a study of baseball and often his salary will be much less than that of a pitcher who has less ability but better luck in having his lot cast with a strong team.

The rise of the good batsman will be much faster than that of the good pitcher, because there are now so few who bat well and so many who look like promising pitchers. Once at the top the player who can bat steadily at a three hundred, or even a two hundred and seventy-five gait, will not only earn more money than the pitcher of average ability, but will earn it longer. A player can retain his batting " eye " much longer as a rule than he can keep his pitching " arm " in winning shape. And if lasting fame is the end sought, is it not true that the great batsmen of the past generation are more widely known to-day than are the

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shoes in the town large enough for Hans. That did not deter him and he tried pitching in his ordinary shoes. They were too slippery, so he finished the game in his stocking feet. Hans was not a success as a pitcher, and his awkwardness was held against him, but he could hit the ball "on the nose." That fact kept him in the game and he has since become famous both in the outfield and on the infield because he kept right on hitting. It was soon discovered that the awkwardness, which still is a feature of his playing, did not interfere in the least with its brilliance. But without that instinct which enabled him to bat, the baseball world probably never would have known Hans Wagner. It was not long before he made his way into the National League with the Louisville team and remained there from 1897 until that team was consolidated with Pittsburgh in 1900.

Napoleon Lajoie was one of the few youngsters whose first ambition was to become a batsman. He started in professional baseball as a first baseman and never hoped to star as a pitcher. He was playing first base with a New England league team when the Philadelphia National league club found him in 1896. Lajoie always has been a great fielder and wonderfully graceful in his work, but it is his batting record that has made a hero of him, not his fine fielding.

Beginning their major league careers only a year apart, these two men have made great records and earned permanent names for themselves. Wagner's batting average has not yet fallen below three hundred, according to the official record. Lajoie has failed to bat over three hundred in only two years. In both of them he was manager of the Cleveland team and the fact that he came back to his old form on surrendering the leadership proves that the worries of management caused his drop in batting.

Edward Walsh, the great pitcher of Chicago's White Sox, owed his success to the spitball which he acquired after joining that team. When Owner Comiskey obtained Walsh from the Newark club of the Eastern league he possessed terrific speed and had made his reputation with that. He was taken to Marlin, Tex., in the spring of 1904, and at first, when he warmed up, it was necessary to reinforce the backstop. The first game in which he pitched was for the substitutes against the regular team and for five or six innings the veteran Sox could not hit him at all. About the seventh inning they began to gauge that speed accurately and in a few minutes the fences behind the outfield needed reinforcement. Those veterans hit so hard it seemed as if they never would stop. The same thing happened nearly every time Walsh pitched.

Manager Callahan and the other pitchers tried to teach Walsh to throw a slow ball with the same motions as he used in pitching a fast one, but he did not progress well. That was the year in which Elmer Stricklett came to the White Sox from California and brought along with him the spitball. Walsh watched Stricklett and, after being shown how to throw the ball, said he believed he could do it. The manager set him at work learning it, feeling certain that, with his great speed, Walsh would be almost unbeatable if he acquired the spitball. Fielder Jones, who succeeded Callahan as manager early in that season, was of the same opinion and, although it required two years for Walsh to master that delivery, Jones had faith in him and advised Owner Comiskey to keep him. At the end of those two years came the season of 1906 and within a month Walsh was famous. When the season ended he had been the big factor in winning an American league pennant and a world's championship. But he had to be made over as a pitcher and, without the insight and patience of his employers and his own great perseverance, few ever would have heard of Ed Walsh.

Would-be pitchers who have shown in other departments of the game can be named by the dozen, if necessary. " Bobby " Wallace of the St. Louis Browns aspired to pitch and for a time was successful, but he has been kept in the

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Charles A. Comiskey himself, one of the most prominent figures in baseball to-day, would not have attained the success which has crowned his career if he had stuck to pitching. In his case it was brains rather than batting that kept him in the game, but if he had been able to bat no better than the average pitcher his brains would have had to find some other employment. He turned his attention to first base and it is a question whether he made the greater reputation as a first baseman or as a manager of the only team that has succeeded in winning four consecutive championships.

The career of the great pitcher looks the more tempting, but that of the mighty batsman is the more substantial and permanent in its rewards.

AMATEUR VERSUS PROFESSIONAL

PERHAPS you have seen some standard drama produced on the stage by a well balanced company of actors and afterward, a month, a year, or a decade later, have watched a cast composed of amateurs perform the same parts, mayhap on the very same stage. If so, have you ever tried to define or convert into specific terms your ideas of the difference between the two performances, and the reasons therefor? Such an effort would be much like the writer's experience on the many occasions when he has been asked to point out wherein lies the secret of the wide difference between professional and amateur baseball games.

That there is a difference and a vast one between the two kinds of theatrical performance is admitted. It can be seen and appreciated by any one at all conversant with dramatic work. The same is true in baseball in the case of the average patron of the national pastime. The difficulty is to reduce it to concrete form, and that doubtless is because the difference is abstract.

There is a sureness of touch and certainty of effect in the work of the professional actor that

is lacking in the efforts of the amateur. The former probably has played many similar parts and faced similar situations before. He may have played the same rôle many times. The amateur is perhaps making his first appearance of importance. He is uncertain of himself and of the effect he is trying to produce. There is a parallel in the spectacle of a veteran outfielder chasing back to capture a long, difficult fly compared to the way a schoolboy or college player performs the same feat. The veteran senses instinctively from the sound of bat against ball the general direction of the fly. Often the knowledge whether or not the pitcher was delivering a curve or a straight ball helps him. He runs back confidently, sometimes without even taking a second look over his shoulder, until he wheels and stops within a step or two of where the ball comes down. The amateur on the same play loses a fraction of a second before he gauges the length or direction of the fly. He tries to keep his eyes on the ball as he runs back. He is plainly a bit at sea; slows up, then puts on a new burst of speed and probably barely reaches the ball in time to make a spectacular catch for which he is duly applauded. This is intended only as a type of course. There are amateurs whose work is more finished than that of many professionals. We are dealing with generalities.

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is thrown a great deal upon his own resources. Often he has to create a part with nothing but the manuscript and the stage directions to guide him. The amateur, on the other hand, usually imitates either the work of some skilled actor whom he has seen in the part, or follows blindly the directions of the elocutionist or dramatic coach employed to drill the amateur players in that particular bit of work.

So the ball player who reaches the higher leagues is expected to do much of his own thinking. He is expected to solve new problems and meet new emergencies as they arise. He is taught to be self-reliant. The school or college player, possessing in many cases as much natural skill and talent as the professional, is more inclined to imitate some great player whom he has watched. If not that he feels bound to follow the instructions of some professional coach paid to teach him and his teammates how to play baseball. The professional ball player of brains usually knows what to do without being told. The amateur has to remember what he is told to do. His is the more trying and difficult task oftentimes.

In baseball there are so many variations of the same play and one small variation may make so great a difference that it is next to impossible for a 'varsity captain or coach to give instructions that will fit all situations alike, or to lay out a plan of attack or defense

that can be followed blindly. Individuality of players cuts almost as much figure as shifting situations. What one player can do successfully another may fail dismally to perform under exactly the same conditions. What one player can accomplish in a given situation in one inning may be impossible or inadvisable for him to do in the same situation involving different players or different conditions.

"Hal" Chase, ex-manager of the New York American league team, has been the cause of a lot of misdirected effort among first basemen. This acknowledged star brought a style distinctly his own from the Pacific Coast. Because of the brilliant reputation he earned he has had many imitators both professional and amateur. He has been the ideal toward which ambitious young first basemen aspired. But there are not many men who can play first base the way Chase plays it. They may be equally good first basemen and just as strong factors in the defensive tactics of their teams, if they play the base according to their own lights. They may weaken the defense if they try to follow Chase.

One play will illustrate the point. With an opposing runner on first and nobody out, or with runners on first and second and none out, if the game is close, the natural play expected from the batsman is a sacrifice hit. Chase meets this situation by leaving his base before the pitcher starts to deliver the ball, and run-

ning in to intercept any bunt toward first base. By doing that he cuts down the chances of a successful sacrifice because he gains enough of a start to enable him to field the bunt to second or third, as the case may be, in time to force out any except the fleetest runner. That is an extremely desirable thing to do and Chase makes the play equally well to second or third base.

I have seen other professional and amateur first basemen try that play repeatedly and fail. For a time it was a set-piece in the college game, to be attempted every time the situation arose. The first baseman was expected to do what Chase did. No allowance was made for physical differences. Chase being a left-handed thrower gets a ground ball in position to fire it either to second or third base a fraction of a second quicker than a right-handed thrower can make the same play. He can make the throw to second base two fractions of a second quicker than a right-handed man can. That slight interval of time is all the difference between success and failure in making the play. With a runner on first base only and nobody out the first baseman, if he runs in before the pitch, gives the baserunner that much more start toward second, because the runner can always play a little farther away from the bag than the baseman and get back safely. If the baseman gets twelve feet nearer the plate before the batsman bunts, the wary baserunner

will be twelve feet nearer second base than he would be if the first baseman remained on or close to the bag until the ball was hit. Because Chase is left-handed and does not have to turn to make a throw to second, he can give the average runner that additional twelve or fifteen feet start and throw him out at second.

Every first baseman produced on the Pacific Coast in recent years has imitated Chase to some extent. Two illustrations of failures are Arnold Gandil, who was given a tryout by the Chicago White Sox, and Joseph Nealon, who was with the Pittsburgh Pirates. Comiskey tried to preach reason to Gandil and break him of the habit of tearing in after bunts and giving the baserunner a long lead, but after a few months gave it up and released the Californian to Montreal in the Eastern league. It is only fair to add that he "came back" and filled the position satisfactorily for the Washington Nationals.

When a hit is made to the outfield, if there are men on bases, there is another marked difference between the college and the professional way of playing. The collegian seems to be possessed of an irresistible temptation to throw out every runner who tries to score from second base on a single, no matter what the circumstances, the size of the score, or the chances of his success may be.

The professional outfielder will seldom waste

a throw to the plate to stop a run, either on a hit or a sacrifice fly, unless there is an even chance to beat the runner home, and sometimes not then. If his team has a safe lead and the game is past the middle, it is the policy of the professional to play safe by "playing for the batter." This is on the principle that a victory by one run counts as much as a game won by a dozen runs. A throw to the plate after a base hit almost always means that the man who made the hit will advance another base on the throw. It is not good policy unless the conditions demand it. The run which is going to the plate will do the opposing side no good unless the score is close. If the runner is not cut off at the plate the throw has been wasted and the man who hit the ball is within scoring distance of the plate if another hit follows. If he had been held on first by throwing to second instead of home, it would take two more hits to score him.

When one run will tie the game, however, the outfielder is bound to take a greater risk to prevent it than when that run does not matter much. When it is a case of stopping a winning run, if possible, the fielder will take even longer chances. If a team is behind it is necessary for an outfielder to cut off any run that he can, or to stop the leading runner at any base he can, no matter if it does give the succeeding runners an extra base. But he must use judgment and

discretion. He generally knows the speed of each one of his opponents on bases. He knows pretty accurately how far or fast his own arm can make a ball travel.

The amateur outfielder seldom has all this knowledge at his command. He does not know to a certainty what he can do himself and what he can't do, because he has not acquired the ability to throw consistently. Sometimes he can put more speed and carrying power into a ball with the snap of his arm, than at other times. Consequently he is more prone to make futile efforts to catch impossible runners, thereby wasting his own energy, besides letting more runs get within striking distance of the place of registration.

When all is said, however, the amateur or college ball player has far greater attraction for the general public than the amateur play actor can have. Many people would rather see an amateur ball game than one between professionals. Those who prefer an amateur stage performance to the real thing are few. College ball players give a zest and earnestness to their games and their individual efforts that is lacking as a rule in the work of professionals. The veteran leaguer may be just as earnest and take just as much interest in his work as the collegian but without giving that impression to the average spectator. The very ease and finish with which he accomplishes the tasks which

fall to his lot sometimes detract from their spectacular value. He makes chances which really are difficult appear easy oftentimes.

Frank Schulte, the Cub outfielder, is a personification of this idea. When he began playing in Chicago many spectators gained the impression that he was indifferent and not trying his hardest all the time. The reason was that he attained his greatest speed in motion without apparent effort, therefore did not seem to be running hard when he was at top speed, and Schulte is very fast. Being of modest, retiring disposition Schulte always avoided overdoing anything. He never was guilty of making a chance look difficult for the mere sake of winning applause, as some fielders I could name have a habit of doing. It was more than two years before Schulte entirely lived down the reputation of being a phlegmatic, indifferent player. But the public finally learned that this product of New York state loved to win better than to eat and always was working his hardest in a game. To-day there is no player on the team better liked than Schulte.

There is no department of baseball in which the difference between the amateur and professional is more marked than that included in the vague world of superstition. Mighty few professional players will admit they are the least bit superstitious about anything. The exceptions prove the rule. The school boy or

collegian usually is free from this eccentricity, although often he will affect superstition as a pose. Perhaps it is because baseball with him is not a means of livelihood and the glory and honor he wins belongs largely to his alma mater instead of being of appreciable cash value to himself, as is the case with the professional.

There are only a few league players who will ride in " lower 13 " in a sleeping-car without protest and a sleepless night. Lee Tannehill, formerly of the White Sox, claimed that he had been injured in the next game he played after every trip he ever made in a berth numbered 13. On the other hand Manager Chance of the Highlanders always demands " lower 13 " on a trip, and if assigned to a sleeper in which there were only twelve sections he has been known to purchase the stateroom and paste the number " 13 " on its door.

Club owners laugh at superstition among their players and deny that they possess any such " ridiculous " ideas themselves. But look back through the pages of baseball history and see how many championship schedules ever started on the 13th of the month. That date always is avoided for an inaugural although it sometimes has entailed considerable inconvenience to do so.

Fielder Jones, former manager of the White Sox, held it to be almost criminal folly for a team to pack up its bats before the last man

was put out in a game. One time in his career, when his team had a long lead, that was done in the ninth inning and brought unexpected defeat. He never forgot it. One day on the old White Sox park the White Sox were half a dozen runs ahead and two opponents had been retired in the last half-inning to be played. The bat boys started packing the White Sox sticks in the bag, so as to get home to dinner earlier. Jones saw them and yelled from center-field to stop them but nobody heard. Then he deliberately stopped the game until he could run in to the bench and order every bat taken out of the bag and replaced on the ground in its proper position.

President Comiskey of the White Sox once came near discharging a ground-keeper of whom he was very fond. One afternoon it was threatening to rain before the game could be finished. The teams were hurrying through the ninth, as the White Sox had the victory cinched. Before the side was retired it was noticed that the big American flag was being lowered from the tall mast back of the center-field bleachers. The Sox did not lose that game, but Comiskey sent for his ground-keeper peremptorily. Then it developed that an assistant had been sent to take in the flag when the game ended but had been cautioned not to lower it before it was over. Comiskey fired the assistant.

The old Boston National league team under

the late Frank Selee was very superstitious about the location of the broom with which the plate was swept when said broom was not in use. Visiting players found that out and used to move the broom to the other side of the plate to tease the Bostonians. One of Selee's men always would run out from the bench and replace the broom in its original position. Now National league umpires carry small whisk brooms in their pockets for the purpose of cleaning off the plate and the old broom fetish did not spread.

"Joe" Tinker always remembers how he walks to the plate the first time up in a game; that is, whether he steps in front of the umpire and catcher or goes around behind them. If he makes a safe hit that time he will be careful to walk to the plate in exactly the same way next time even if he has to wait until the umpire and catcher are in position to let him repeat his previous act.

Sheckard once borrowed a stick of gum from Overall while on the bench during a game, when both were with the Cubs. He made three hits. Every day thereafter Sheckard would borrow gum from Overall and refuse to accept it from any one else, hoping to get at least one hit each day. He did, too, until Overall finally asked the left-fielder if he was afraid of clerks who sold chewing gum. Sheckard had to explain and that put the "jinx" on the gum.

When the White Sox celebrated the winning of the 1906 world's championship in the spring of 1907, the halyard clogged in a pulley as they were hoisting their world's pennant and broke the flagstaff off in the middle. With one accord the players whispered to each other "Seven years of hard luck." The White Sox never have won a pennant since, but the period of seven years has now expired.

In a game where luck is such an ever-present factor, is it any wonder that superstition grows on the players year by year?

THE INSIDE GAME AS PLAYED BY CATCHER AND PITCHER

NOWHERE in the realm of baseball do brains count more than in the so-called battery positions. Nowhere in the game do science and experience possess greater advantage over mere mechanical skill and physical prowess than on the pitcher's slab and behind the catcher's mask. Nowhere else has inside baseball been brought to a higher state of perfection, partly because a more perfect understanding can be established between two persons than when anywhere from three to nine players are involved in the more complex forms of team work.

Every ball thrown or delivered by the pitcher to any part of the infield is a form of inside baseball.

The great majority of baseball followers rate the pitcher as the most important part of a baseball machine. They believe the only thing necessary to win a pennant is for a club owner to secure a string of pitchers whom the players on the other teams cannot hit. They forget the need of getting players who can hit the other pitchers. They overlook the fact that much of

a pitcher's success in winning games depends on the support given him in the field and the number of runs made by his own team. They ignore the fact that a great pitcher may be a loser because of inferior partners behind the bat, while a mediocre pitcher may become world-famous with the help of a brainy catcher and fast support.

President Dreyfuss of the Pittsburghs maintains that the manager who has a great catcher, a shortstop who can go to his right or his left equally well after ground balls, and a centerfielder who can do likewise after flies, can build a championship team around those three men much more easily than if he has great players in all other positions but is weak in those three.

There always has been a tendency to overlook the catcher, possibly because so much of him is covered up during the game, but more because the greatest part of his work is inside baseball and of the kind which the general public can neither see nor appreciate. If any one doubts the importance of the catcher to a baseball machine, let him recall the clubs which have won world's pennants under modern conditions. Going back to 1903 the Boston American's, with Criger behind the bat, beat Pittsburgh, which had no Criger. In the next year there was no world's series, but in 1905 the New York Giants beat the Philadelphia Athletics decisively, not so much because of Christy

Mathewson as because they had a Roger Bresnahan and the Athletics did not.

In 1906 the White Sox defeated the Cubs in the famous Chicago world's series because they had in "Billy" Sullivan a greater catcher than even the great John Kling, who himself was responsible for much of the ease with which the Cubs triumphed over the almost catcherless Detroit Tigers in 1907 and 1908. And Pittsburgh's victory in the closest of world's series was accomplished, so every expert believes, because Gibson turned the scale in favor of the Pirates.

In six world's series, therefore, the premier honors have gone to the teams which had in their ranks Criger, Bresnahan, Sullivan, Kling, and Gibson. Of these five the greatest generally are conceded to have been Sullivan, Kling and Gibson, in the order of their development.

However strong a team may be, its ultimate success, when put to the supreme test, will depend upon its catchers. This is the opinion of the managers who have achieved the most success and is the reason why veteran catchers are retained so long. The supply is so far below the demand and young catchers have so much to learn that the man of brains and experience whose arm is weakening will hold his place against a younger catcher who can throw the ball twice as hard and far.

When the White Sox were winning the fifth

game of their series with the Cubs, putting them within one game of the world's pennant, John Kling asked Manager Jones of the Sox, as the latter came to bat near the end of the game, why the Sox were beating the Cubs, who were acknowledged to be made up of better individual players. To this Jones replied very promptly:

"I'll tell you why. We've got the best catcher that ever stood in shoe-leather."

That may not have been a very polite thing to say right to Kling's face, but it was the answer Jones always made to the same question and the incident illustrates one of the ways in which the catcher plays inside baseball.

The secret of successful pitching does not lie in the possession of great speed or baffling curves, or both, so much as in outguessing the batsman. If the batsman knew what a Brown or a Mathewson was going to deliver every time, neither would win many games. What makes a pitcher most effective is his ability to make a batter think a curve is going to be a straight ball, that a straight ball is going to curve, that a slow pitched ball is a fast one, that a ball is coming over the plate when it is not, or that it will not come over the plate when it does. And since the catcher must signal for each ball pitched he always helps the pitcher decide what to pitch and often makes the choice himself. Even the best of pitchers depend a

great deal on the judgment of an experienced catcher.

One of the many ways in which the catcher helps the pitcher outguess the batsman is by talking to the man at the plate, the object being to take his mind off the game, to give him less time to think what is likely to be pitched to him, and to divert his attention as much as possible from studying the pitcher's actions. It requires a veteran to do this, for the catcher himself must be doing a lot of hard thinking at the same time, and his conversation has to be largely a matter of habit. It is necessary to use some shrewdness to draw an experienced batsman into an argument for he knows its purpose too well. Few backstops could tempt Jones, for instance, into paying any attention to a remark, as Kling did in the incident mentioned. New players and nervous ones are more readily engaged in this by-play. One catcher always starts it by asking a new man where he played last season, what luck he had, etc. Even religion has been resorted to sometimes as a subject to trap the unwary. The spectator seldom is aware of this running fire of talk between the batsman and the men who are trying to fool him, but would be highly entertained at times if he could hear it. Most of these verbal exchanges are friendly and in the nature of " jollies " although sometimes they are bitter and objectionable.

When Clark Griffith was managing the New York Americans he went in one day to pitch out a game in which Detroit was batting the previous pitcher and threatening to wipe out a small lead which New York had gained. It was after Griffith's pitching days were over and when he had little except his brains left to work with. In the last inning the Tigers cut the lead down to one run and had men on second and third with two out. Another hit meant a probable Detroit victory and Schaefer was at bat. Griffith worked him into fouling off two strikes without pitching him a good ball, but in so doing had three balls called. What to pitch next bothered the veteran. He had about decided to give Schaefer his base on balls and try for the next man, but while he was studying on it, he called out to Schaefer: "I'll bet you five dollars I strike you out."

"Germany" jumped to the plate and said to the umpire, "Stop this game while I make a book!" Then he yelled to Griffith, "What was that crack you made?"

Griffith repeated his offer and Schaefer called back: "I'll take that and bet you another five dollars I make a base hit." To which the pitcher replied, "You're on."

Then Griffith pitched a perfectly straight ball over the plate at moderate speed. If Schaefer had known that in time, he could have hit it safely almost to a certainty, but quite naturally

he thought that would be the last thing in the world with which any pitcher would try to strike out a man. Remembering the bets, Schaefer supposed Griffith was attempting to fool him into swinging at a curve which was aimed to break outside of the plate and out of his reach.

"Nay, nay," thought Schaefer, and not until the ball was right on top of him did he realize that Griffith, anticipating the German's thoughts, had pitched the ball straight over the plate. Then he swung wildly at it, but too late, striking out and losing both bets simply by being outguessed.

The size, length, and weight of the bat used by a player mean much to both pitcher and catcher. It is comparatively easy of course to judge the diameter and length, but the weight differs greatly in bats of the same size. The catcher resorts to many tricks to find out if a batsman is using a heavy or light stick. Sometimes you have seen him ask the man at bat to lend him the bat while he knocked the dirt out of the spikes in his shoes. Oftener still you have seen the catcher pick up the bat thrown down by a man who had made a foul and started for first base, holding it out to the batsman as he returned to the plate. Probably you thought that a pretty bit of courtesy on the catcher's part. Sometimes it was, but more often the catcher was testing the weight of that

bat and transmitting his deductions to the pitcher.

What is the use of this information? The batsman who uses a long or heavy bat generally must take a good swing at the ball and cannot chop at it as quickly as can a man with a short or light bat. The man with a long or heavy stick will punish balls pitched over the side of the plate farthest from him but will not as a rule hit hard if the ball is pitched inside or on his side of the plate. The man who uses a short bat and pulls away from the plate a little is helpless usually if the ball is kept over the farther side of the plate, but is liable to smash the ball if pitched inside the plate. This knowledge of what kind of bat the batsman uses is of particular advantage to both pitcher and catcher when they know a batter is going to try to hit and run with a man on first base. By pitching the ball on the inside or outside of the plate it can be made difficult for the batsman to hit the ball toward the infielder who, the catcher knows, is going to cover second base, and the chances can be greatly increased that he will hit toward the fielder who is going to remain in his position.

In most cases it is of greater importance where the ball comes over the plate than what there is "on it," as can be seen from the above. That makes a pitcher's control more valuable to him than almost anything else at his com-

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Every batsman is being studied and watched closely by both pitcher and catcher at all times, but never more closely than when there are runners on bases. Then the man at bat and the runner or runners are working together as a rule. In the major leagues the signals may be given by the batsman, by the runner, or by the coacher. The most frequent way is for the batsman to select the time to make a hit and run play, for instance, and his every motion will be noted by his opponents. What particular movement of hand, body, or foot is a signal to a runner is difficult to detect, but a brainy catcher will discover many signals in a season.

It is comparatively easy to find out who is giving the signals. If it is the batsman, the runner will watch him more closely than otherwise would be natural. Sometimes the batsman will give the play away by looking in the direction of the runner, as he gives a signal, to see if the latter is watching for it. If the runner gives the signals, the batter will glance in his direction pretty often between pitched balls. That is the time when most of the signs are worked. If the coacher gives the signals, both the batsman and runner will have to watch him. To avoid this, most coachers, if they give the signs, do so by spoken word, which of

course is not possible for either batsman or baserunner to do. There was one team which used the word " it " for the hit and run play. " Hit it a mile; make him put it over " or any other familiar sentence, in which " it " was used, constituted the signal. Another team used the word " little " for almost an entire season without being discovered. Still another team used the inconspicuous word " and " for one signal. Only common words in frequent use can be employed, for an unusual word would be spotted in a few plays by a shrewd battery with disastrous results.

These are only a few of the tricks of the trade but they are enough to show that the art of pitching is not all in curves and speed; that the greatness of a catcher is not measured by his ability to stop wild pitches and throw hard and fast to the bases.

HOW INSIDE BASEBALL HAS DECREASED THE BATTING, BY PERFECTING DEFENSIVE FIELDING

NOTHING makes a really good baseball player more angry than to be called a stationary infielder, or outfielder. If you are a friend of his you may call him names that sound worse, but if you value his friendship do not intimate, even jokingly, that he is anchored to any particular spot while his team is on the defensive. That is one failing a man may not have and become famous in baseball.

The science of the defense in the modern game is founded on a constant shifting of the barriers against base hits in perfect, machine-like harmony with one another and with the pitcher. The outfielder who insists on wearing the grass off one certain spot and the infielder who plays for all batsmen alike are cogs sure to tangle up the whole works. The major league scout on the hunt for promising talent labels such a youngster as nearly hopeless.

The steady decrease in batting in the last twenty years generally has been charged to a growing supremacy of the pitcher. All efforts to increase the batting have aimed to handicap

the pitchers, which shows how little the club owners, to whom is intrusted the making of the rules that govern baseball, know about the inside game. Greater pitching skill has had something to do with it, but the decrease in batting is due more to the development of scientific defense than to better pitchers or poorer eyesight in the new generation of batsmen. If Anson, or Brouthers, or Ed. Delehanty had been compelled to pit their unquestionably magnificent prowess with the stick against the system which present day batsmen face in the major leagues, their batting averages would have shrunk some, through no fault of theirs, no decrease in their own strength, no astigmatism in their world-famous batting eyes.

Years of close watching and constant study disclosed the fact that certain batters usually hit certain kinds of balls in certain directions. Shining exceptions to the rule only proved its existence. Anson, Brouthers, and Delehanty probably would have continued to be great batsmen even if some Ponce de Leon fountain had been discovered to enable them to remain young and play ball forever. Just like Lajoie, Cobb, and Wagner, they were able not only to hit almost any kind of pitched ball but to hit it somewhere nearly where they wanted to. The average player's ability is much more limited. There are only a few right-handed batsmen, for instance, who

can hit a fast-pitched ball down the third-base line and there are equally few left-handed batsmen who can hit speed to right field. The tendency of the former is to hit a slow or curve ball into left field and of the latter to " pull " the slow ball into right field. In addition the general direction in which the average batter will hit can be governed by pitching the ball away from or close to him.

Out of this knowledge, of which only the outline has been indicated here, has been built up the inside system of defense which has robbed many batsmen of many base hits. Probably no team has yet brought this style of defense to a higher degree of perfection than Chicago's Cubs under Chance, although every successful team has used more or less of it in one way or another. Consequently no better illustration of how scientific defense is worked out can be given than the one with which I am naturally most familiar. To be sure the Cubs' system already has been described in great detail by more famous writers and in more ambitious form, but it has been represented to be much more mystifying than it really was. Of the outline given here the reader may feel perfectly sure, for it was obtained first hand.

The groundwork is simply this: When the Cubs were in the field Tinker at short watched for the catcher's signal to the pitcher then repeated that signal in such a way that the out-

fielders and other infielders could understand it but the opposing batsman could not. In that way every defending player knew what was going to be pitched every time and could "lay for" the batsman with greater certainty because of that knowledge. Of course, there are different forms of defense for different situations and the system of signals has been added to by years of experience, but its foundation is as simple as indicated.

Here are some of the results: If the bases are empty and an average right-handed batsman up, the infield and outfield will be looking for him to hit to the right of center if a fast ball or one on the outside of the plate is pitched to him. They will expect him to hit to the left of center if a curve or a ball inside the plate is delivered. If an average left-handed batter is up, the probabilities are exactly reversed. Consequently the entire team, being aware through Tinker's signal what the pitcher was going to deliver, could be on its toes to start in the direction in which the ball would be hit three out of five times. There are many batters who almost invariably will hit either to the right or left of center field no matter what is pitched. For such batsmen you will notice both infield and outfield play far out of their natural positions. But even these peculiar batters will hit a fast ball to a different spot than they will hit a slow one. It can be seen already how much

this wireless communication between the pitcher and the men behind him will help to guard fair ground against base hits.

When there is a runner on base the system becomes of still greater value and a little more complex. With a runner on first and nobody out in a close game, the natural expectation is a sacrifice hit and for this the commonest defense is for the second-baseman to edge over so as to be ready to cover first if necessary, while the shortstop covers second, leaving the first and third-basemen free to help the pitcher field any bunt as fast as possible with the object of forcing the runner out at second if it can be done. But an up-to-date batsman is likely to break up this system by switching to a hit-and-run play and the infielders must be on their guard against this. The hit-and-run is frequently tried with no one out, always with one man out, unless the pitcher gets the batsman " in the hole " before it can be tried, and usually with two out.

See how the Cub system of defense works out here. Suppose a right-handed batter was up and the catcher's signal called for a fast ball or one on the outside of the plate. When Evers saw Tinker repeat it he understood that Tinker would cover second if the runner on first started to advance and that he (Evers) could remain in his position. Then if the batter hit the ball it was likely to come to the right of second base

because only a very versatile batter would be able to pull a hit through the spot left vacant by Tinker. If nothing happened on that pitch, the catcher might call for a curve or slow ball. Tinker flashed that to the others, including Evers, who knew that he must cover second this time and allow Tinker to remain in position because the ball was likely to be hit toward left field. If the batsman hit left-handed all this had to be reversed. On a fast ball or one on the outside, Evers would cover second and on a curve or a ball pitched close in, Tinker would be ready to take the throw.

Knowing who will cover the base is of great aid to the catcher in making his throw to second and the constant shifting of plans makes it difficult for the batsman to guess which fielder will leave his position on a hit-and-run play. He can foretell which hole will be left open on the infield only by guessing what the pitcher is going to deliver and that is a hard task. But think of the strain this system puts on the player. He must be eagle-eyed, for he never knows when a signal is to be flashed to him and to miss it may defeat his team. No manager will accept any excuse for missing a signal. Then the same sign has two entirely different meanings according to the style of the batsman, and if this fact is forgotten for a moment it may prove fatal in a crucial situation.

Perhaps it can be better understood from the foregoing what it means to a team using inside baseball to have one of its regulars laid up by accident. The substitute may be almost as good a player in every way, but he will weaken a team very much if he is not thoroughly familiar with every signal and every move which each signal calls for. Often the presence of a new man upsets a team through mere lack of confidence in his having interpreted a signal aright in a critical spot. That is one reason why the wise manager never "breaks up a winning combination" if he can help it. Many a regular has sat on the bench after having recovered from an injury because his team was winning without him and a substitute of lesser ability has kept his place for fear of destroying the perfection with which the machine was working.

No attempt can be made even to outline all the varied workings of this system of defense, but enough has been told, perhaps, to convey an idea of its value. Whatever the system used, if successful it is based on the first principle of constant shifting in accord with the pitcher and batsman. Some teams carry the system into greater detail than others and there are many different ways of transmitting the signals. Sometimes they are given by the catcher, or by the pitcher himself, in such a way that the whole team can get them first

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along with an imaginary ball to the shortstop at second base, the runner going down from first kept right on toward the bench under the impression he was forced out. He was out all right, but not at second, for the batter hit a fly to right and Lajoie's trick gave the right-fielder plenty of time to double the runner off first base. Zeider, once second-baseman of the White Sox, actually worked this trick on a base-runner, when the batsman hit a pop fly to short right-field, then went back and caught the fly himself. It requires a strong-lunged coacher to prevent these tricks, for the crowd usually yells whenever the ball is hit, drowning all shouts of warning.

Another old-time trick still is used with success when the ball is thrown to intercept a runner advancing on a hit. In the case of a man going from first to third on a single you may have seen the third-baseman standing carelessly near his base as if watching a play being made elsewhere and giving not the slightest indication that the ball was coming to him. Often the runner is fooled into slowing up or coming to third base standing up instead of sliding. Suddenly the baseman will come to life, grab the throw and touch the unsuspecting runner out.

With a runner trying to score from second on a hit I have seen a catcher pick up the bat to toss it back toward the bench or slip off his

mitt as if the play was over so far as he was concerned, and all the time the ball would be coming in as fast as an outfielder could throw it. In plenty of time the trickster would be ready to take the throw, and the runner, who allowed himself to be deceived into taking his time, would find himself very unexpectedly nailed at the plate.

The first time I ever saw the "sacrifice-killer" worked by an infield was against the White Sox in Detroit. That is the name applied to the trick of forcing a runner at third on a bunt when there are runners on first and second with nobody out. Hahn was on second and Manager Jones on first. Just as the ball was pitched, O'Leary, then shortstop, started to cover second. Isbell laid down a nice bunt which ought to have advanced both men easily. But, deceived by O'Leary's move, Hahn was breaking his neck to get back to second, and before he could recover he was forced out at third. On the very next day the Sox broke up that trick. The same situation came up with a Sox pitcher on second, Hahn on first and Jones at bat. It is not easy to advance the average pitcher on a bunt, anyway. O'Leary made it doubly difficult by running this pitcher back toward second just before the ball was delivered. But Jones did not bunt. He hit a bounder over the spot O'Leary had left vacant and this shift so surprised even the outfield

that the pitcher, who was on second, not only reached third but kept on to the plate.

There is no trick that will work always and few that can be worked successfully against the same opponent at short intervals unless that opponent is stupid. Some tricks are dangerous for the team that tries them, as in the case of the "sacrifice-killer."

The secret of success in baseball is not to excel all opponents in skill, but to outwit them at every possible point. That is why the brilliant mechanical player never becomes of as great value to his team as the lesser light who has mastered inside baseball, sometimes jocosely called "the apotheosis of the double cross."

SCORING THE GAME

Down in " little old New York," as its denizens love to call it, there is a vender of baseball score-cards who probably will be remembered by every one that has attended games at either major league park there in recent years. So far as known his claims to distinction are two in number. One of these is a deep, melodious bass voice, which would earn recognition in any choir or chorus. The other is a spark of originality which may be his and may not. I never asked.

Every baseball " fan " has heard the stereotyped, raucous barking: " Get your cards here — you can't tell a player without a score-card." Half-way up the long incline which leads to the New York grandstand you begin to hear a deep bass voice chanting with great distinctness: — " Know the game — know the runs — know the hits — know the errors." As you near his stand at the top of the incline you see in large print on his cap: " Score-cards." That is the only explanation of his monologue, which continues slowly: " Know the inning — know the out — know the pitcher — know the batter — know the game," and so on.

Splendid advice, but how many patrons who pause to drop a coin in this vender's palm and receive a score-card, without interrupting the seemingly automatic monologue, really "know" how to get the best value out of that score-card?

Frequently "you can't tell a player" with a score-card, unless you know him, because of carelessness in printing or changes in the teams. But the electric score-boards are remedying that defect in great measure, wherever they are in use. It is possible with this mechanical assistance for almost any one to "know" the batter, the pitcher, the inning, the out, and the runs made. A great many patrons are quite content with that knowledge and think they "know the game" thoroughly. If one does not care to know how to make a score-card teach one more baseball than that, it will be useless for one to read farther.

A majority of the spectators "score" a game in some fashion, if only by the simplest possible system — an "O" for an out and a straight mark for a run. That enables one to keep fair tab on the progress of the game and is not to be scoffed at. A smaller class record the hits and errors after a fashion. But only occasionally, outside of the press boxes of the ball parks, will you find a spectator who actually scores a game in detail. One says it is too much bother or takes too much attention away from

the game. Another gets rattled and skips a play or two, then fails to see a grand catch or a splendid hit while trying to straighten out his score card. He throws it away in disgust, for spectators go to ball games to see them, not to record and write about them.

The great army of baseball devotees overestimate the difficulty and perplexity of scoring, and underestimate the zest it adds to the game. It will surprise any one, who tries it, to find how quickly a system can be learned which will take little more time than is required to mark down just the outs and the runs. It is all a matter of habit and of learning a simple system of "baseball shorthand." Number the fielding positions of the players from 1 to 9, then choose a dozen or so symbols, which will be easy to remember, to indicate as many different kinds of plays. Practise using these until familiar with them and it will astonish you to see how quickly you can record each play.

There are almost as many different systems of scoring as there are baseball scorers. The systems used by experienced scorers usually are based on a few common principles but differ in variety of detail and in the symbols used. All scorers number the fielding positions but not all in the same way. Not because it is in any way better than dozens of other systems, but because I am more familiar with it, I will

confine the article to describing one system. In passing it may be added that my shorthand record of a game, if sent to another city and to a person using an entirely different system, could be translated into a correct account of that game by that person after a few minutes' study.

Starting with the pitcher's position as No. 1, the catcher is No. 2; first base, 3; second base, 4; third base, 5; shortstop, 6; left field, 7; center, 8; and right field, 9. Always it should be kept in mind that these numbers mean positions, not individual players, because the positions are the same in every game, everywhere. The players are not.

Merely to emphasize this point, there is a baseball classic which has been told so often people are beginning to believe it. When baseball was very new in the new northwest, John McCloskey was trying out a lot of green material one spring for one of the many minor league teams he installed in his earlier days. One day a young man from a neighboring town applied for a job. The manager told the youngster to go out in right field and see what he could do. The youth turned, hesitated and came back: "Say, boss, which is right field? I never was here before." McCloskey didn't keep the young man long enough to ask his name. Now when a player wants to indicate an absolute lack of "baseball sense," he says:

"You make me think of McCloskey's outfielder."

With the figures 1 to 9 and the letter E it is possible to score every defensive play made in a game. That is not complex, is it? Here are a few samples: The batsman hits to the shortstop and is thrown out at first base. It is just as easy to write 6-3 as it is to put down "O." The next man hits a fly to center field and it can be recorded by the figure 8. The next batsman hits to the third-baseman, who fumbles and loses the out. Two characters, E5, indicate the error and who made it. This lucky batsman tries to steal second and is thrown out, catcher to second baseman. That is scored 2-4. With a runner on first the ball is hit to the second-baseman, who starts a double play, by way of the shortstop to first base. Put down 4-6 opposite the name of the man retired at second and 6-3 opposite the batsman. Then join the two plays with a line and you have that double play recorded so that any scorer from Maine to California can understand it.

Suppose a runner on third tries to score on a grounder to the second-baseman but the ball is thrown home in time to turn back the runner. The catcher chases him and tosses the ball to the third-baseman. The runner starts home again with the third-baseman in pursuit, but the ball has to be tossed to the pitcher who now covers the plate. Once more the runner turns

back, chased by the pitcher this time, until he runs into the ball in the hands of the shortstop, who has covered third and taken a short throw from the pitcher. It would take a long time to write all that in a score-book, but the story is told just as plainly by the figures 4-2-5-1-6. The first figure should show the fielder who started the play; the last figure the one who completed it.

For the offense (the plays made by a team while at bat) few symbols are required in a simple system. There are six ways for a batsman to reach first base. If he gets there on an opponent's error, the way to score it already has been indicated (E and the number of the position erring.) If he makes a base hit indicate it by the plus sign (+). For an extra base hit repeat the sign (++, for a two-base hit; ++++, for a home run). A base on balls is shown by four dots (:.:). The sign for a batsman hit by pitched ball is HPB. Once in a great while a batter is given first base for interference. This can be indicated by a marginal note. The only other way to reach first base is on a play made to retire a teammate at some other base — a "fielder's choice," as it is called. Use the multiplication sign (×) to show that fact. When the batter makes a sacrifice hit put an asterisk (*) in front of the figure, or figures, used to score the play.

After reaching first base the runner may

advance by stealing. Indicate it by the letter S. If he advances on a balk, use BK; if on a wild pitch, WP; if on a passed ball, P. If he is left on a base when the side is retired show that by the letter L, but if he completes the circuit indicate the run by a magnified period (·).

There are many different kinds of blank forms in score-cards and score-books, but that need not bother any one. The principle is the same in all. Whenever obtainable I use the form known as the "Harry Wright system", and distinguished by the fact each blank is made up of rows of squares, each square containing a diamond and divided into four sections. The lower right-hand corner of each square is the place to set down how a batsman reaches or does not reach first base. In the upper right-hand corner put down how a player goes from first to second or is put out there. The upper left-hand corner is for telling what happened between second and third, and the lower left-hand corner is for the journey from third home. If the runner scores, place a dot in the diamond inclosed by that square to indicate the run. In any other form of score blank the same method can be followed, using one corner of each square for a base in the order in which the runner goes around.

The professional scorer uses more symbols than these, as will be explained, but with the foregoing characters at one's finger-tips any

one can score every play made in a game. What is more useful, such a score card, if preserved, can be consulted ten days or ten years afterward and the game can be played over in memory simply by reading the plays. And if any one tries to tell you that game was not won or lost " that way " you can win your argument with that score card.

Many baseball reporters and official scorers use systems containing no more detail than already described. No more is needed to record everything that goes to make up a player's batting or fielding average. Those reporters who need more detail for their descriptions of games can trust to memory for a few hours regarding the direction of important hits or the nature of the errors made. This isn't a safe way, however, particularly when writing up important battles, like those of a world's series, when a paper and its readers often demand accurate description of practically every play. For that purpose it is necessary only to amplify the system already outlined and it can be done gradually.

Often it is necessary to know the order in which players were put out. When men on bases are retired this will not always be clear unless the outs are numbered in their turn. For that purpose write the number of the out (1, 2 or 3) beneath the characters telling how the out was made, giving it the form of a frac-

tion. Then in the matter of fly balls, not all of them are alike and you cannot always remember whether Jones hit an easy curving fly or a line drive to Smith in right field. To distinguish them I use the letter F for an ordinary fly, D for a line drive and P for a pop-up or "Texas league" fly that is caught. Sometimes a foul fly is captured, and that is shown by using FF.

Not all errors are of the same kind. For instance, E5 indicates the batsman reached first on the third baseman's error. But it does not tell whether it was a fumbled grounder, a wild throw or a muffed fly. If, instead of the vague E, you had used M to indicate a fumbled grounder, or W to indicate a wild throw, or O to indicate a muffed fly, you would not have to trust to memory to know what misdeed 5 committed. There is another complication. The third baseman may do his part by making a perfect throw, but the first baseman muffs the ball and the runner is safe. That is shown by 5—03, meaning that Mr. 3 muffed Mr. 5's throw. In recording strikeouts the figure 2 is not sufficiently specific, so the letter K is used with it.

The direction of a safe hit is told by a small figure under the base hit sign, showing the number of the fielder to whom or near whom the hit went. The figure 8 under a base hit means a hit to center. If it is desired to be

more exact, a hit to right center can be indicated by putting the 8 at the right of the plus sign. A system of scoring which insures a permanent record of all the plays in a game will show how every baserunner reached each base made by him. If he completes the circuit the four squares will contain the record of how he reached each base. Except when a base is stolen or gained on a battery error, the scoring of which already has been explained, the runner generally is advanced by a succeeding batsman or while a successful or unsuccessful attempt is being made to put out a succeeding batsman. To indicate the advancing of a runner in these cases use the letters A, B, C, D. When a runner advances on something done by or to the batsman immediately following him, use A to show it. Use B to indicate an advance on something that happened to the second succeeding batsman, and so on.

By this time perhaps the reader is of the opinion that baseball scoring is pretty complex, after all, but a great deal of the system here set forth may be omitted. Beginning with the simple system outlined at the start one may amplify it, by adopting more detail, as far as desired. The advantage of the complete, detailed system lies in its permanence.

For illustration I have taken the score of the final game of the world's series between Athlectics and Cubs in 1910. It is reproduced

in two sections, diagram 1 representing the plays while the Athletics were at bat and diagram 2 those while the Cubs were at bat. Without consulting newspaper files or any source of information, except this shorthand score of that game, any desired amount of details can be written, not only now, months after the game, but twenty years from now, when even the names of the players may be forgotten. Following is a partial translation of the diagrams:

First inning — Athletics: Hartsel hit a single past the shortstop, stole second and went the rest of the way home on what happened in the square opposite Collins' name. Lord struck out. Collins hit safely to center field, and that, of course, was what let Hartsel score from second base. Collins stole second and was left there. Baker fouled to the catcher. Davis struck out. For the Cubs we find on the other diagram that Sheckard hit a grounder to the first-baseman and the pitcher covered first, making the putout. Schulte and Hofman both hit grounders to the second-baseman and were thrown out at first.

Second inning — Athletics: Murphy was thrown out from third base to first. Barry popped a fly to the shortstop. Lapp struck out. For the Cubs: Chance made a two-base hit to left and went to third when Zimmerman sacrificed, the pitcher fielding the bunt and throwing

to the second-baseman who covered first. Steinfeldt singled and Chance scored. Steinfeldt was left on first as Tinker fouled out to the first-baseman and Archer flied to center.

Third inning — Athletics: Coombs struck out. Hartsel was thrown out from second to first and Lord from the pitcher to first base. For the Cubs: Brown was out from pitcher to first base, Sheckard out, second to first. Schulte made a hit to center, tried to steal and was thrown out, catcher to second-baseman.

Fourth inning — Athletics: Collins hit a grounder to the first-baseman, who touched the bag himself. Baker struck out. Davis went out, second to first. For the Cubs: Hofman drew a base on balls and was forced out at second base, pitcher to shortstop, when Chance tried to advance him. Chance reached first on this fielder's choice play and went to second when Zimmerman made a single to left. Steinfeldt hit a grounder to the third-baseman, who fumbled it. Chance reached third, Zimmerman second and Steinfeldt first on the error. In that hole, with the bases full, one out and the score tied, Tinker and Archer struck out.

Fifth inning — Athletics: Murphy hit safely past third, went to second on Barry's sacrifice, pitcher to first, and scored when Lapp singled to center. Coombs was out, pitcher to first, and Hartsel struck out. For the Cubs: Brown was out, second to first. Sheckard singled but was

Chicago vs. Philadelphia — Date, Oct. 23, 1910.

	Pos	1	2	3	4	5	6	7	8	9	10	11	AB	R	IB	PO	A	E
Hartsel	7												5	2	1	2	0	0
Lord	8												4	1	1	5	0	0
Collins	4												5	0	3	4	4	0
Baker	5												5	1	0	0	0	1
Davis	3												3	1	0	9	1	0
Murphy	9												4	2	3	0	0	0
Barry	6												2	0	0	2	4	0
Lapp	2												4	0	1	4	2	0
Coombs	1												4	0	1	1	3	0
Total		1 / 2	0 / 0	0 / 0	0 / 0	1 / 2	0 / 0	0 / 1	5 / 4	0 / 1	/	7 / 10	36	7	10	27	14	1

SCORE - CARD. DIAGRAM 1

Umpires, Eddy, Sheridan, Rigler + Connolly — Where Played, Chicago

	Pos	1	2	3	4	5	6	7	8	9	10	11	AB	R	IB	PO	A	E
SheeKard	7	K3		K3		K3			A B				4	1	2	1	0	0
Schulte	9	K3		T9		K3			K3				4	0	1	0	0	0
Hoffman	8	K3			1-3		K3		K2 L				3	0	0	1	0	0
Chance	3		A B		B L L	A X A	E5 S						4	1	2	13	0	0
Zimmerman	4		E7 L		T9 L	T9	L		E7				3	0	2	1	5	1
Steinfeldt	5		L		MS		E5			E5			4	0	1	0	1	0
Tinker	6		E3		K3			E7		E5			4	0	0	1	1	0
Archer	2		E5		K3			K3		6-3			4	0	1	10	0	0
Brown	1									T9			3	0	0	0	6	0
Kling	0			E3		K3		K3		X			1	0	0	0	0	0
Total		0	1	0	0	0	0	0	1	0		2	34	2	9	27	13	1
		0	1/2	1	1	1	1	0	2	1		9						

SCORE - CARD. DIAGRAM II

forced out, shortstop to second-baseman, when Schulte hit a grounder to short. Schulte beat the double play to first but tried to steal and was thrown out by the catcher.

Try your hand at the sixth and seventh innings. All plays on both sides were simple.

Eighth inning — Athletics: Coombs singled but was forced out at second when Hartsel hit to the shortstop. Hartsel reached first on the play and stole second. Lord doubled, scoring Hartsel. Collins hit a two-bagger past first base, scoring Lord. Collins stole third but was put out, second-baseman to catcher, when he tried to score on Baker's grounder. Davis drew a base on balls, which sent Baker to second. Murphy hit one too hot for the second-baseman to handle. Baker scored on it. Davis went all the way from first base home on the same play but ought to have been out at the plate if the second-baseman had not made a wild throw after getting the ball again.

Murphy, who made the hit, ran to second on the play made to stop Davis at the plate, and kept right on to third before the wild throw was recovered. He scored from third on a wild pitch. Barry was given a base on balls. Lapp was out, pitcher to first base. For the Cubs: Sheckard made a two-base hit and advanced to third while Schulte was being put out, short to first. Hofman struck out. Chance singled to right, scoring Sheckard. Zimmerman flied out.

Ninth inning — Athletics: Coombs and Hartsel went out, pitcher to first. Lord took a base on balls and went to third on Collins' two base hit. Both runners were left when the first-baseman caught Baker's foul. For the Cubs: Steinfeldt popped a fly to center. Tinker hit a longer fly to the same fielder. Archer singled to right. Kling batted for Brown and hit to the shortstop, who stepped on second base, forcing Archer out and ending the world's series.

If one wants to know who "second-baseman," "shortstop," "pitcher," and so forth, are in the above translation it is necessary only to look at the opposite team to find out, if by any possibility one has forgotten who played in that game.

In the totals beneath the innings the top row of figures shows the runs made in each inning; the lower row shows the hits in each inning. The columns of figures at the right of each diagram are the so-called "box-scores" which appear in the newspapers. Therein are shown the times at bat, runs, safe hits, putouts, assists and errors made by each player in the game. The fielding record of each player, it must be remembered, is made up from the opposite side of the book or card. For example, the "Mr. 8" who put out Archer in the second inning was Lord, not Hofman.





ROWING





ROWING

Of all sports common among school and college students, none is greater as a muscle and strength builder than rowing. But the very factors which make it an excellent developer of brawn also make it a dangerous sport unless carefully supervised. Rowing demands great muscular exertion and the heart and lungs are put under heavy strain. For this reason it should not be indulged in, in its more strenuous forms, except by boys and men who are physically fitted for its requirements, and it is therefore not an ideal sport for interscholastic competition except when under the direction of competent persons. These remarks, however, are directed towards organized rowing with active competition. In its less strenuous forms, rowing can be tried by almost any soundly built boy with both pleasurable and healthful results.

Crew rowing, because of its team-work, offers the most enjoyment and the best training. At the same time, whenever competition enters, this form becomes the most strenuous, and the younger boys who wish to become oarsmen should confine their efforts to becom-

ing familiar with boats and oars, learning to scull, to row in the pair-oar or in the barge, but leave the contesting of races to their older and more developed comrades. At most, younger boys ought not to put themselves to greater strains than races of a quarter or half a mile. This does not preclude the boy who is fond of the water from having the very best fun in rowing or gaining the very best kind of healthful exercise. This is the same precaution which the boy who runs should take in not attempting much competition on the track or in the field.

Although the majority of the men who are members of crews which win distinction are of good weight and stature, no boy who has a sound body and a fair amount of strength need feel that he cannot enjoy rowing and even become proficient in some of its many forms. I have known many instances of men who weighed not more than one hundred and thirty-five pounds becoming skilled and fast scullers. As in nearly all other branches of sport, skill will often more than make up for size when a fair amount of strength is at hand. In the large English schools at least half of the boys learn to handle the sweep as well as the sculls and big and little enjoy many afternoons on the rivers.

A boy who is learning to row should be able to swim. The light craft in which most rowing

is done are very ticklish machines when in the hands of the unskilled, and a spill into the water is not an uncommon event with the novice. One should never begin his rowing in the lighter and more speedy shell, for not only is there danger of breaking one of these fragile boats, but the beginner is more likely to form bad habits when his attention is engrossed in keeping his boat right side up rather than with his rowing. He should start in a sliding-seat barge or on a rowing-machine. There are many types of barges, varying from the pair-oared to the eight-oared barge and there are an equal number of satisfactory rowing-machines. At many of the larger universities, the men are taught to row in tanks where a stationary boat is rigged with all the equipment necessary for rowing and with oars which have blades with large holes. These holes and the fact that the water is pumped through the tank at a rapid rate gives the oarsman very much the same conditions that he would meet in a moving boat, while at the same time he has artificial steadiness which allows him to put all his attention on his rowing. Another excellent way to learn to row is to enter a boat with an experienced partner, who will steady and teach at the same time.

In sweep-oar rowing, that is, rowing where each member of the crew pulls but one oar, there are many different styles and many dif-

ferent strokes, but all the best aim at certain fundamentals which are necessary to get the greatest amount of speed out of the energy applied. I shall briefly run over some of these points.

The thing which bothers the novice most of all and which he is longest in mastering is the sliding seat. It runs very easily and to the beginner it is often more of a handicap than an advantage. Therefore it is well to start at once to learn its control. To this end, one rule can be laid down, the slide should always follow and never precede the shoulders and back in the backward and forward swing. At the beginning of the stroke the seat should be almost if not quite at the end of the slide nearest the stern of the boat. The body is bent forward along the keel, and the arms swing out with the oar. The body should not follow the arms and the oar. It is very important that this full reach, which is the term applied to this part of the stroke, should not be carried to excess. If the oarsman leans forward as far as he can, he will assume a position from which it is almost impossible to make a quick, powerful catch. On the other hand, if he is leaning comfortably well forward with his arms extended but not over extended, he will find himself in a strong position from which he can move very quickly and exert his full strength on the oar.



I. NOTICE THE EASY, OSITION OF THE BODY ULL REACH. EVERY- IS WELL-POISED E THE CATCH.



IN THE MIDDLE OF THE PULL. NOTE THE STRAIGHT ARMS, THE DRIVE OF THE LEGS, AND THE SWING OF THE SHOULDERS.



THE LEGS ARE DOWN HE STRETCHER. THE WUNG SLIGHTLY PAST NDICULAR, THE ARMS N DRAWN SHARPLY HE BODY FOR A ARD FINISH.



THE RECOVER. THE HANDS HAVE BEEN SENT RAPIDLY AWAY FROM THE BODY, THE BODY IS SWINGING FORWARD. THE SEAT IS STILL HELD BACK AS THE LEGS ARE LOCKED DOWN ON THE STRETCHER.

PRACTICE ON THE MACHINE



So far we have said nothing about the feet and legs, which play such an important part in rowing. The feet should rest squarely upon the foot-rest or "stretcher," which is placed close or far away from the end of the slide according to the size of the oarsman. This stretcher should never be so close as to prevent the seat from coming to the end of the slide when at full reach. At the same time it should be close enough to act as a brake to the slide as the seat approaches the end, so that the oarsman will be conscious of a tightening of the muscles of his legs and an ability to push on the stretcher with all his strength.

The instant the body comes to the full reach, the oar should enter the water and full power be applied so that the stroke of the oar will be begun immediately. To do this the hands must be raised sharply, while at the same moment the shoulders swing their weight on to the oar and the legs are driven down hard. By the time the body assumes the perpendicular and while the arms are still straight, the legs are down being completely straightened in one motion. This shove will send the seat spinning back along the runners. If the leg drive is made before the shoulders are started the slide will run away ahead of the shoulders and in all probability the powerful drive of the legs will be wasted. The body will have assumed a weak position similar to that seen when an oarsman

overreaches, in which event the whole burden of the stroke falls on the shoulders and back and the greater part of the power is lost. By starting the shoulders, back, and legs together and from a position which is easy and comfortable, it will be seen that the leg drive comes at a time when it can add most to the speed and power of the stroke. Furthermore, as the shoulders and back are moving at full speed when the slide starts, they will have passed the perpendicular when the end of the slide is reached and thus shoulders and slide will finish their excursion together. Still further to add to the unity of the stroke, the arms should be sharply brought into the body at approximately the same time that the slide is finished.

If these points are all observed, the stroke will come to a sharp, clean end with the handle of the oar drawn against the body and the arms at the sides, the back being a few degrees beyond the perpendicular and the legs locked tightly down on the slide with the feet braced against the stretcher. With the expert, this point coincides with the quick leaving of the water by the oar, which marks good rowing by its clean, hard finish. For the beginner another step is necessary before he is ready to start on the forward swing of the recovery. This step is the slight dropping of the wrists and hands so that the oar clears itself of the water as it turns on the feather. This

is one of the hardest things which the novice has to struggle with, but gradually, as he becomes more skilled, he finds that the ending of his stroke, dropping of his wrists, and feathering become one continuous and instantaneous motion.

In starting the recovery, which is fully as important in good rowing as the stroke itself, the hands should be quickly shot away from the body until the arms are extended. This point is reached just about the time the hands are over the knees and at that instant the shoulders follow mechanically after the arms. When the knees have been cleared by the hands, the legs, which have remained straight and tight against the slide, bend at the knee and release the seat, which starts easily but rapidly to follow the body forward. Here again the slide must never be allowed to get ahead of the shoulders and the beginner will find it necessary to make a conscious effort to slow his slide. During the last six or eight inches of the slide the seat should creep towards its forward destination. All this time the body has been assuming its position between the knees for the full reach so that the instant the seat comes to the end of the slide the next stroke can be begun. The knees can be made a point of support for the body and thus keep it from swinging from one side to the other. For this purpose they should not be held close together,

but separated just enough to come almost directly under the armpits when the full reach is gained.

So much for the stroke from its inboard aspect; now for the points important to the outboard work. In starting the stroke, the oar should be buried in the water so that the top edge of the blade is covered by about two inches of water. This depth should be maintained throughout the entire stroke. The oar should rest squarely against the flattened pin in the lock. On the recovery, the feather, which is put on the instant the blade leaves the water, is held until just before the full reach, when it is turned slowly off. In rough weather and against a head wind the feather is held longer than under more favorable conditions. On the recovery the blade should always clear the water and never be dragged along the surface, as this materially checks the boat's progress. In rough weather one feathers high, but the lower one feathers on a smooth bit of water the easier it is to keep the boat on an even keel.

To keep the boat from rolling is a task which always seems hard to the beginner and he is tempted to swing to one side or the other in his efforts to maintain his balance. This is wrong, and the expert never finds it necessary. In the first place, if one has his stretcher properly placed and his feet well and tightly fastened against it, one finds his control over the

boat much increased. Then it will be found that by raising or lowering the toes of one foot or the other the boat can be thrown to one side or the other. By this little trick alone one can change the balance of an eight-oared shell. The knees, if they are opened somewhat, are also a valuable means of keeping the boat steady on the recovery. Still another means is to balance her with the oars. Thus if one side is down, the men on that side raise their hands while the men on the opposite side help by lowering theirs.

An important thing to learn in all manner of rowing is how tight the grip upon the oar should be. If one holds too firmly and too tightly the forearms will soon become very tired and cramped so that it becomes almost impossible for the oarsman to put any power into his stroke. On the other hand, too loose a grip may prove disastrous and result in a "crab." The oar should be held firmly but lightly. On the pull through, the grasp with the fingers will be strong and hard but the thumb will do little more than to steady the handle. On the recovery, the thumb and palm of the hand should do most of the work while the fingers rest lightly and even loosely on the oar and thus rest for the work of the next stroke. If there is this relaxation on each stroke, one's arms will never become "tied up," as the saying is, no matter how far one

rows. The more expert one becomes the less one grips his oar. The hand which does the feathering should bear the brunt on the recovery, while the outside hand, i. e., that farthest from the blade, should be the hand which does most of the pulling, as it is best situated to apply the leverage. Feathering and beveling (which is the opposite of feathering) are done by dropping or raising the wrist, as the case may be.

In sculling, which is the term given to rowing when each oarsman uses two oars or sculls instead of a single sweep, the fundamental principles are identical with those of sweep-oar rowing. The slide, the feather, the hard, clean catch and finish, offer the same problems, but there comes in the added element of using an oar in each hand rather than one large sweep, and the nicety with which the work must be done is even more essential with the sculls. This is especially true in single and double sculling, when bull strength counts much less than cleverness and skill in the use of the oars. A man may be a first-class sweep oar and yet be unable to make any headway as a sculler, and while there are scullers of note who for one reason or another would not rank among the best with the sweeps, it is rare to see a sculler who cannot perform fairly well with the bigger oar.

In learning to scull, the beginner has first to

master his boat, for a single shell is a ticklish toy except in trained hands. The first rule he must learn is to hold on to his sculls no matter what happens. If he does this he will be surprised to see how soon he masters the situation, whereas the moment he lets a scull slip from his hand he is sure to get a ducking. Then as he learns to balance his boat without thought and to take his strokes with ease and freedom, he gradually becomes at home in his frail craft. But not until he can say that rough and smooth water are all the same to him, has he become a first-class sculler. In learning to scull, the man who takes his chances is the man who goes ahead the fastest. One should endeavor to take a hard catch at the full reach and put the whole weight on the instant the oar enters the water. This sounds very simple, but when one realizes that at the full reach the oars are not in a favorable position to maintain the boat's balance and the body is less easily controlled because of its forward bending, it will be seen that to take a full, hard stroke means perfect confidence and freedom.

In sculling, to overreach is even more detrimental to good results than in sweep-oar rowing. At the same time, it is not necessary for the sculler to swing so far back, as his hands can be carried farther in to the sides with the sculls than with a sweep. But he should not overdo this, and the hands should never be

carried past the body as often beginners attempt to do. Finish with the hands not farther back than the hips. The catch, or beginning of the stroke, should be made with the arms straight so that the motion comes straight from the shoulder. This is advisable in sweep-oar rowing but even more essential to good sculling. The catch should be smart and clean. The oars should be brought through to the finish with ever-increasing velocity so that there will be no break in the stroke. If this is done and the sculler makes certain that the blades leave the water absolutely together, the finish is sure to be hard and clean. After the hands have been sent away quickly on the recovery and the slide started, the whole body should relax, so that a little rest between strokes is gained. As the catch is approached, the whole body is free — there should be no constriction whatsoever — and as the seat comes up to the end of the slide the sculler without tightening a muscle sets himself for the next stroke.

Rhythm is very necessary to successful rowing, and whether it be in single sculling or in the eight an effort should be made to maintain a definite rhythm to the stroke so that each stroke, no matter what the rate of striking may be, will have its proportions always the same. Thus if the stroke is quickened, instead of rushing backwards and forwards haphazardly, the stroke will still preserve its definite

full rhythm, the only difference being that every motion is accomplished more rapidly. The intervals are shortened but the relationship is kept the same.

As a sculler or a crew becomes more and more proficient, an attempt should be made to master various rates of striking. Starting at a moderately low stroke, which is the easiest to learn, it should be gradually raised until a rapid rate is reached. At first this will not be very high, as if it is high it will be poorly executed. If no attempt is made to rush the process and the increase in striking is advanced gradually, it will be surprising how quickly a change can be accomplished and a high rate mastered. Then at the same time it is wise to learn to drop the stroke very low, for in this way as in no other are errors in style most easily detected and corrected.

A good sculler or a good stroke-oar in a crew learns to vary his stroke without any great effort. One should never attempt to change the rate in one or two strokes but to increase or lower it gradually. This gives the boat a chance to respond. One should always study his boat or his crew to see at what rate the best results can be obtained, and that rate should be the one at which most of the rowing is done, but no sculler or crew is really good without being able to sprint at a high rate of striking and paddle at a low one. Beginners should

bear in mind that to row with a fast stroke does not mean that the pull must be harder, but rather that all the movements are quickened.

In England there is one universal style of rowing and all schools teach the same stroke. There, the long body-swing and the short slide, are accepted features in good rowing, and all oarsmen are brought up with the same ideas of rowing. In America there are many schools of rowing and almost as many different styles of stroking as there are teachers, and yet a close analysis of each shows that certain fundamentals are common to all successful strokes. The shorter body-swing and the longer slide are characteristic of American rowing, but like many of the other points of difference between strokes this is only superficial, as the length of the stroke in the water varies little in the two countries. At Cornell, where Coach Courtney has had such uniform success, the individual is the all-important factor. Each man rows in the way easiest to him. His rigging is fitted carefully to his needs. With long rows at a low stroke, Courtney welds the men into a crew, getting them accustomed to one another's little idiosyncrasies. At Columbia and Syracuse, where the material is generally less powerful and less plentiful, Coaches Rice and Ten Eyck have fitted their stroke to the material at hand and an easy, graceful stroke results. At Harvard, more attention is paid to form and more

effort made to fit the men to a standard stroke which seems most efficient to the coach. But to all certain salient points are common. These are in brief: a hard, clean catch, a continuous and increasing pull through, and a hard, clean finish followed by a quick shooting of the hands away from the body and a slow, easy recovery. Variations are found and minor differences are many, but on these points all are practically agreed.

In training for rowing events, perhaps the best piece of advice which can be given is this: Do your hard rowing early in your preparation so that the last week or so may be of a lighter order. Do not overdo in the amount of rowing. Many a good crew has been found sadly lacking when it came to the final test of endurance because, as one great coach said, "They had left all their rowing on the water by too much practice." "If you are unprepared a week before your race," said a wise trainer, "it will do you little good to try to make up for lost time in the days that remain." Another good point to remember is that morning and evening are the best times to row, for then the sun is not too hot and the wind is apt to be less.

HOW TO TRAIN A CREW

BY W. A. BANCROFT

Before training comes the selection of men. Too great care cannot be taken that the members of a crew are, first, physically sound; and, second, anatomically fitted for rowing. Men whose organs are unsound, not only are likely to suffer themselves, but, when they break down, new men are taken in their places, and there is lost the unison of a crew — the result of weeks of preparation. The work must be done over, if there is time. If not, the crew is weakened to that extent. Men should have a suitable stature and suitable proportions. Men too tall or too short, men with extremely long or short arms or legs, conform only with great difficulty, if at all, to the movements of the rest of the crew. Men from five feet eight inches to six feet in height, and weighing, without clothing, from one hundred and fifty to one hundred and eighty-five pounds when in racing condition, are generally the best. There is, of course, great choice in fiber. Some consideration also should be given to temperament and

disposition. A man should have resolution, spirit, good judgment, amiability, and equanimity. A good crew must be essentially harmonious, and this involves adaptability on the part of all of its members to each other. Boat-racing should not be undertaken, as a rule, by those under seventeen years of age; and it would be safer to begin at eighteen or even nineteen. The sport is a violent one, and is likely to be too exacting for persons in mid-youth. The organs are not then sufficiently powerful; and an arrested development, even if nothing more serious, may result.

Training involves the amounts and kinds of exercise, food and drink, sleep, and bathing for the body, besides the occupation of the mind and its discipline.

And first of *exercise:*

If the persons selected have the time at their disposal, it is always better, before beginning to row, to practise for a week or two several forms of exercise, for the purpose of strengthening certain muscles of the back and legs, as well as the wrist muscles, and to get the heart and lungs accustomed to greater activity. As the crew, which at this time should contain at least two more men than the number of oars to be pulled, must conform to the powers of its weakest member, and as it is not prudent to begin by taking a large amount of exercise, at first not over twenty minutes ought to be spent

on gymnasium apparatus and in calisthenic exercises, and not over a mile ought to be covered in walking and running, three-quarters of which should be walking. This exercise ought to be gradually increased until thirty-five or forty minutes are spent in the gymnasium, and a run of a mile and a half at a pace of seven or eight miles an hour is taken.

The gymnasium exercises should consist of work on vertical bars, on wrist weights, to some extent on arm and chest weights, and in doing the military "setting up" exercises, such as are now prescribed for the army of the United States, especially the exercise which consists in lowering and raising the body by bending the legs at the knees, or "squatting." The gymnasium exercises ought to be done by all together at the word of command, both for the sake of acquiring uniformity of movement, and also of acquiring a habit of obedience. A crew is a machine. Its parts must fit each other, and the whole must start and move and stop as directed.

These gymnasium exercises for the first two or three years of rowing should be kept up daily, until within about six weeks of a race, usually from ten to fifteen minutes being given to them, even after the actual rowing has begun; and the runs should be kept up until nearly as late a date. During the six weeks or thereabouts immediately preceding a race, a

smart walk of a mile or more, according to the time available, ought to be substituted for the exercises and the running. For students and those whose vocations are sedentary, it is a good plan to take the walk immediately upon rising, and, while perspiring, follow it with a quick shower or plunge bath, and a rub-down before breakfast. If there is time, instead of this, a longer walk at a less rapid pace may be taken during the day. Overdoing, however, is to be avoided. What a given crew can do must be learned by experience; and individuals should be relieved, if it is found that they are doing too much. Especially as the day of the race approaches, care should be taken that no one is overtrained. If there is doubt, a given exercise had best be omitted.

The food should consist of meat and fish, vegetables, light puddings, and fruit; the drink of pure water, and good milk if wanted. Pastry, confections, alcoholic drinks, and tobacco should be prohibited. The food should be abundant and wholesome. Steaks, chops, or broiled chicken, with fish for breakfast; soup, fish, and a roast for dinner in the middle of the day; and a cold roast or breakfast dishes for supper. The roasts should not be overdone, but should be suitably cooked so as to retain the juices. The best of vegetables should be selected, and fruit in its season. The bread should be neither too fresh nor too stale. In

short, all these articles of food should be prepared as they are at a first-class hotel. The best of good, wholesome food, and that in abundance, is needed. There ought to be no regret if weight is not lost, provided each man does his share of the work in the boat. Good food and plenty of exercise strengthen the muscles; and if this process is going on, an increase in weight is of little moment.

The oarsman should have all the sleep he wants; and between the ages of eighteen and twenty-five he will need about nine hours in bed, if he does honest work in the boat. He should sleep in a well-ventilated room, and on a hair mattress and pillow, with no more covering than is necessary for warmth, and this will not be much. His sleep should be taken at regular hours. Besides the morning bath, one other cold bath daily may be taken after the row, or after the harder row if there are two; but the bath must be taken while perspiration is going on, that is, at once after the row is done. The bath should not be prolonged, and should be followed by a vigorous rubbing down with a dry towel. This rubbing may advantageously be followed by another rubbing of the limbs by the hands of an attendant, whose hands are moistened with spirits for the purpose. Care, however, should be taken to do the rubbing in a room sufficiently warm and free from draughts to avoid taking cold. If,

for any reason, the oarsman has stopped perspiring before taking a bath, the bath should be in warm water.

The mind should have a rational occupation. Freedom from extraordinary care or unusual excitement should be insured. Regularity of both bodily and mental habits should be observed. While in the boat the closest attention should be given by each man to his performance, and time enough should be taken when out of the boat to understand and to master what is required of him. If there is time, and the sole object in view is to win a race, much time may profitably be spent by every member of the crew in perfecting, by discussion or otherwise, the details of the stroke, or of the work of individuals, or of the crew as a whole. At all events, the mind should be kept healthy by the contemplation and the consideration of none but wholesome subjects.

While there should be a regularity in matters of food, sleep, and habits, and, in general, in exercise, the latter should not be allowed to become irksome through its monotony. It is better to give up rowing occasionally for a day, and substitute some other exercise of a recreative character, or rest altogether; and, if the preparation for a race lasts for six months, a vacation of a week ought to be taken when the time is half gone. But even then exercise ought not wholly to be abandoned; and the rest of

the requirements, those relating to food, drink, sleep, etc., should be observed.

Few races ought to be undertaken, and none by new men, without at least three months of preparation. By this is not meant that, after a race is over, a man's habits may be radically changed. The true oarsman never essentially changes his habits. Unless his concerns prevent, he will always get plenty of sleep at regular hours, will eat nothing but the kinds of food described above, will not become a slave to any appetite, and will not give up athletic exercise. Such a man will be, in a sense, always in condition; without inconvenience, he will readily assume the more exacting obligations necessary to prepare for a race. A crew of such men may, of course, prepare for a contest in less than three months' time; but even they will do well to give as long a period as three months, if the race is to be any but a very short one.

The stroke to be rowed will depend somewhat upon circumstances. If it should happen that there be available for the stroke oarsman of the crew, a man who has already acquired a smooth, symmetrical, regular, and effective movement, it may be expedient to teach the rest of the crew his stroke, no matter what the style. Good results have been obtained from such a course. Good crew shell-rowing, no matter what the style of stroke, has certain require-

ments. The shell must be rowed so that it will not roll from side to side; so that it will not sink unnecessarily either at bow or stern, when the weight of the crew shifts as it is moved with the seats. The oar-blades must take the water on the "full reach" at the very farthest point to which they are carried, without "clipping" or rowing the first part of the stroke in the air. They must take the water also without "backing" it, or throwing it towards the bow. They must leave the water at the end of the stroke without "slivering," or pulling water up as they are taken out; that is, the blades must take and leave the water so that the least possible retardation shall be given to the onward movement of the boat, or, as it is sometimes said, they must be put in and taken out "clean" and "smooth."

After the blades are taken out of the water at the end of the stroke, they must be returned to the "full reach" again without touching the water; for the friction of dragging them along the surface tends to hold the boat back. The blades, of course, ought to be dipped together, taken out together, feathered together at a uniform height, and turned again together for another stroke. Again, there should be uniformity of movement inside the boat; indeed, unless there is such uniformity, there is little likelihood of uniformity of movement outside. The backs, therefore, of a crew that rows well

will always be parallel, the legs will move simultaneously, and so will the seats, and the arms will be drawn in at the same time, the wrists dropped together at the finish of the stroke, the arms extended again at the same time, and the hands will be turned simultaneously on the full reach to begin the stroke. All these requirements are common to good crew shell-rowing, and, when lacking, are indications of a faulty stroke. But none of these faults, however, may belong to any one of several crews, no two of which are rowing the same stroke. There may be good rowing, therefore, under various styles of stroke. Still, some one must be adopted.

When no other stroke has been adopted, the following may be used: Assuming the boat to be stationary and the oarsman to be at a "full reach," arms extended, back straightened from its lowest extremity and inclined, seat as far aft as it is intended to be moved, blade in the water turned for the stroke and just covered, the shoulders squared and held down and back, the neck and head in prolongation of the back, the wrist of the hand next to the rowlock slightly convexed, and that hand resting diagonally upon the oar handle, the legs opened slightly, but symmetrically, enough to receive between the thighs the lower front part of the trunk, and the boat resting evenly upon the water, the stroke is begun by swaying the

trunk back as though pivoted at the seat until it has reached the vertical position, then the legs are straightened out with vigor, the seat moving back with the shoulders, the hands being kept at such a height that the blade will remain just covered, until the seat has been moved toward the bow to its limit, and the trunk has swung just a trifle beyond the vertical. The stroke is finished by drawing in the arms until the hands touch the body, when, by dropping them a bit, and, at the same time slightly turning the wrist, the blade is taken out of the water. Care should be taken to keep the blade just covered in making this finish. To return to the " full reach " again the hands continue moving, and are shot out parallel with the surface of the water until the arms are straightened, the trunk is swung forward, and almost at the same time the seat is started aft, while the trunk continues to swing until everything gets to the " full reach " simultaneously and is ready to begin another stroke. Nothing but practice, of course, and the assistance of an experienced " coach," will enable a crew to row smoothly, gracefully, and effectively the stroke here attempted to be described. The separate parts of the stroke are given as though they were independent movements, instead of forming, as they do, one continuous but complicated movement. At the beginning of the stroke, or at the " catch " as it is called, the

shoulders should be driven back vigorously and rapidly, care being taken not to make the motion a jerky one by burying the oar-blade too deeply, and thus stopping the movement of the shoulders. At the finish the most difficult part of the movement to be acquired is a rapid "shoot" of the arms away from the body, without a jarring motion by which the hands are either sent down into the lap with a violent thump, or else the shoulders are brought forward with a jerk. The "catch" and the "shoot" give no little trouble to beginners; but, when once mastered by a crew, it is believed that, other things being equal, no stroke without them is so effective. Every motion must be such as to waste no energy. After the arms are shot out, the trunk, which scarcely stops in changing direction, should not be rushed towards the "full reach," but should follow at a relatively moderate pace the "shoot" of the arms. Especially, care should be taken not to let the trunk drop down on the "full reach" with a jar or thump, and pains should be taken to have the hands high enough as they approach the "full reach" to bring the blade as close to the water as it can be brought, without "backing water," to begin the stroke.

The tricks of watermanship, or of rowing the boat "on an even keel" as it is called, that is, without its inclining either to port or star-



THE HARVARD EIGHT OF 1911 JUST BEFORE THE CATCH.



THE CORNELL CREW OF 1912 AT FULL REACH.



HARVARD'S 1912 CREW AT NEW LONDON.



FINISH OF THE COLUMBIA-HARVARD RACE IN 1907, COLUMBIA WINNING BY THREE-QUARTERS OF A LENGTH.

SOME EIGHT-OARED CREWS




board, can most of them be learned only by experience. It is a general rule, when the boat inclines to port during the feather, for the starboard men to lower their hands and for the port men to raise theirs, and vice versa. If the boat rolls to port during the stroke, the port men must pry her over, done by lifting, as it were, their oar-handles, and vice versa. Every muscle should, of course, be trained to be under absolute control, so as to adjust itself to the various conditions of wind, wave, and current as they appear, to anticipate, and, by the necessary motions, to counteract their effect upon the "trim" of the boat. Power must be applied vigorously at one instant; at the next, it must be taken off so as to maintain the "beat" or rhythm of the stroke.

It is best to teach a novice the motions of the trunk, legs, and arms upon a rowing-machine. The muscles are then accustomed to many of the requirements of the stroke, so that when, later, the beginner is seated in a boat, there is not so much to be learned at once. Before he is allowed to row with a crew, he should be taught first, in a pair-oared boat of sufficient steadiness not to roll, the proper method of handling an oar. From the pair-oar, the members of the crew should next be seated in a steady barge, and there be taught to row "together." Lastly, the shell should be entered. In the meantime, the way to lift boats, to carry

them, to put them into the water and to take them out should be taught; also the way to get in and to get out of a boat; the way to turn a boat without straining it, as well as how to "hold" it and to "back" it. A shell must be used with the greatest of care, in order that its lines may be kept.

In placing the crew in a boat, care should be taken to select for the stroke oarsman a man of quick motions, clear head, and self-possession, plucky, and of endurance. He should be able to set a long stroke, the pace of which he can regulate without throwing the crew out of time, and he should have power enough to "drive" the rest of the crew in a spurt. The next man behind the stroke oarsman should be a stronger man than he, and one who rows a stroke quite as long, and who can keep in perfect time with him. The weight of the crew should be so arranged that the boat will never "trim down by the head," that is, sink lower in the bow than in the stern; and, as nearly as possible, the strength of the men on one side should equal the strength of those on the other.

There are two objects in training a crew—one to enable it to acquire an effective stroke, the other to enable its members to be in the very best physical condition at the hour of the race. The first consideration should always yield to the second.



HOCKEY



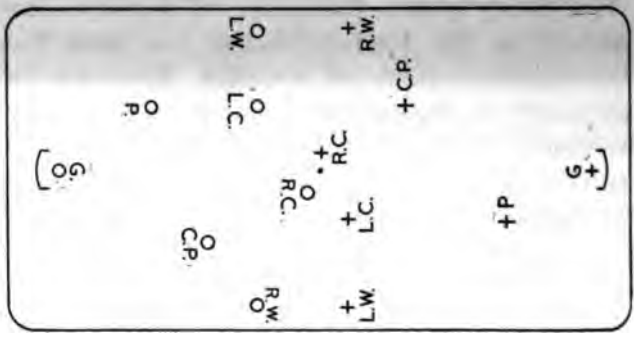
HOCKEY

BY FRED D. HUNTINGTON

For many years the game of hockey, like baseball in the United States, has been the characteristic game of Canada, foremost in popularity in leagues and colleges. Probably because of the fact that prior to the widespread erection of artificial ice rinks, the locations in the United States naturally adapted to hockey were limited and confined to the northern portions alone, the introduction of the game dates from a comparatively recent period. In 1897, Dr. Frederick Goodridge of Cambridge, at that time a student at Harvard, was impressed with the merits of Canadian hockey, and in spite of the less favorable conditions was ardent in establishing the game as a college sport. The experiment was successful. Wherever hockey was introduced enthusiastic supporters were found. Other colleges and schools followed suit, and since that first year hockey has been recognized as one of our finest winter sports. The popularity of hockey has steadily increased until last year it received final and absolute

recognition at one of our leading and most conservative colleges. The Harvard Athletic Committee endorsed a vote of the Student Council making hockey a fifth major sport and awarding its players the straight letter insignia.

The object of this article is to give those interested in this game, which possesses such attractions for lovers of winter sport, some idea of its fundamentals. It is hoped that the be-



POSITION OF TWO TEAMS AT THE FACE-OFF

ginner may here find instruction that will make his progress more rapid and development more certain, and that even to those already acquainted with the game some suggestions will prove of value.

Although there are no standard dimensions for a hockey rink, ninety feet by two hundred feet is generally considered the most satisfactory size. For convenience and fast play, some sort of side-boards are essential. The goals,

six feet wide by four feet high, are placed at least ten feet from the ends.

The speed of the game requires careful selection of equipment; heavy or clumsy shoes and guards are enough to ruin any player. Jersey, tights, and running trunks make an ideal playing costume even for cold weather. Strips of felt about one inch thick, that may be conveniently slipped inside the tights make excellent guards for shin and knee. Shoes should be tight-fitting and light, with thin soles; skates, also light, of thin steel, with well-rockered blade, should be riveted on to the shoe. This equipment applies for defense men as well as forwards, though the former may require slightly thicker guards. The goal-keeper needs all the protection consistent with the agility required of him.

There are many models of sticks adapted to individual taste. Certain general requirements are common to all, however. A good stick must be light, with a firm, stiff shaft. When held out on the ice at arm's length the heel of the blade should rest flat, with the toe raised but slightly.

The prime requisite of a hockey player is ability to skate. Perfect familiarity with straight skating, starting, stopping, and turning, etc., are invaluable and can be secured only by practice. A distance or fancy skater is not necessarily a good hockey skater, for hockey requires expertness along certain lines; start-

ing, stopping, and balance for dodging are the qualities to be developed.

A game of hockey is a series of starts and stops and one who excels in this will pass as a fast hockey player. To start and stop you must have sharp skates, ground on a small-radius stone, which gives sharp edges to grip the ice and a slightly concave center. To make a quick stop the skater turns his body sideways, throws his weight back, while his skates, at right angles to the direction of his progress, bring him to a stop. If one faces to the left in stopping, the right leg is straight out, rigid at the knee; it is the inside edge of this skate that does the actual stopping. The left knee is slightly bent. This leg serves to balance and guide. In this manner, not only does the skater come most rapidly to a stop, but he is also in the best possible position for a quick start. In the position I have described, facing left, body inclined, right leg rigid, left knee bent, the first drive is with the left foot, the right is brought forward slightly in front of the left for the second drive, the skates still nearly at right angles with the forward motion. After three or four short powerful thrusts from the front side of the skate, the skater faces forward and strikes out in the ordinary skating stride, taking short steps and short glides, until well under way, getting the full thrust from the front inner edge of each skate. Each skate as

it comes off the ice should be at an angle of at least forty-five degrees with the line of forward progress. Avoid pounding, that is, bringing the skate flat down on the ice. With each stroke the toe of the skate touches the ice first, with the knee bent to give spring and suppleness. At the half-stroke the heel touches, as the leg drives out, the full finish is off the very toe edge again.

The art of raising or shooting the puck is very difficult to explain, and proficiency in this department requires more conscientious effort than almost any other. Let me remind you that ice is not necessary to practise shooting; concrete or wood surfaces do very well. Take the stick naturally with either right or left hand slightly less than one-half the way down the shaft. With the right hand down, the heel of the left face of the blade would be placed against the puck, and as the puck is shoved forward the blade is drawn in. This combination of motions makes the puck rotate in a horizontal plane as it shoots through the air. The most effective shots are knee-high, driven with all the power possible.

From these general considerations we turn to the details of the game. One great beauty of hockey is the lack of complicated rules, as there are really but two. The first is against offside play. Every player must endeavor to keep onside, that is, between the puck and his

own goal, and no man shall be eligible to receive a pass unless he is even with, or behind the man carrying the puck at the time of the pass. The second rule is against rough play. In the rule-books attempts are made to classify and describe such offenses, but it all comes down to this: there shall be no unnecessary roughness, *i. e.*, tripping, cross-checking, pushing from behind, slugging and slashing with the stick. A multitude of other so-called tricks are not hockey; they should be strictly penalized in games and discountenanced in practice. There is only one thing that can prevent hockey from being widely recognized as one of our very finest sports, and that is rough, unsportsmanlike play. There is great temptation, but wherever rough play has been tolerated hockey has lost prestige and popularity.

As to the detail of position play, I can mention only a few general principles. The seven men that compose a hockey team may be classified in two groups, four forward and three defense men.

The forwards form a line across the rink. Each man has his territory and the success of the United States style of hockey depends on his confining his efforts to that territory. The right and left wings are responsible along the sides, near the boards; the right and left centers take their respective positions in the territory between. These four forwards theoret-

ically should follow the puck up and down the rink, keeping always just on-side, each man constantly ready to receive a pass. The forwards are primarily offensive, but they play a very vital part on the defense, in breaking up the opponents' attack, intercepting passes, checking attempts to dodge or jump through, and, most important of all, covering up their respective opponents in a scrimmage around the goal.

There are three methods available to get by an opponent. The first is to dodge. This tends to the individual style of play that so often destroys team-work; but within limits, dodging, coupled with clever stick-work, is extremely effective. The second, is to jump the puck through. That is, if you see an opening, a quick flip of the puck will often enable you to slip past the opponents' forwards, and before they can turn you are clear. The third method is the surest and when perfectly executed is unbeatable. This is to pass by your opponent. The player with the puck advances, and pretends to dodge in the opposite direction from that in which he intends to pass. By that feint the opponent is drawn off his balance, the pass is made, and the player receiving the pass skates by unhindered.

The play of the wings is hard work and requires good condition, for, aside from the bumps and bruises against the boards, the wing

has more actual skating than any other player. He must be back in the very corners when the puck is behind his own goal, to assist his defense men in starting an attack. He must follow the puck well behind the opponents' goal, and yet be always ready to chase back if the opponents get away and start down the ice. If a team has wings that will keep out on the boards and up in line, it should have no difficulty in starting an attack, for without even looking one can slam the puck over to the boards knowing that the wing that is on the job can pick it up with a flying start. A wing carrying the puck down the boards can often pass an opponent by caroming the puck off the boards and jumping around. A good wing, even if a football-player, will never attempt to jump between an opponent and the boards, for he is sure to be boxed. The wing should be a good shot and should be placed right or left according to whether he shoots with his right or his left hand down. Wing shots are dangerous, but a pass in to an uncovered center is a more effective means of scoring than taking a wild chance unassisted. Wings should converge on the goal with an attack, and if the puck goes behind the opponents' goal it is their duty to check and turn in attempts to carry it out. If they get the puck they should at once snap it back to their centers for a shot.

The play of the two center forwards requires

more skill and stick-work but is less strenuous. On the offensive they engage in the scrimmages, dodge, jump through, and pass. When the puck is around the opponents' goal, one center should be right in on the goal-tender on the lookout for rebounds off the goal's shins and ready to smash home a quick pass from his wings; the other center should shadow the play from side to side, keeping clear of the scrimmage, ready to receive a pass and drive it into the goal before he can be covered. On the defensive, the centers must cover up around their own goal; they need not try to get the puck out from their own territory, for that is up to the wings and defense men.

To meet the dangers of a passing game the defense, point, and cover-point, play what is known as a parallel defense, as in this way the man with the puck and the man who is to receive the pass are both covered at the same time. In an ordinary attack by two or three men, the cover-point takes his side in front of the man with the puck. If he happens to be playing far up the ice, he retreats, keeping free from the attack until he is in line with his point, that is, parallel with him. He then stops and takes the man with the puck. The point has singled out the man who is to receive the pass. As the player with the puck approaches the cover-point, he passes; it is then an easy matter for the point either to intercept the pass or

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HOCKEY PRACTICE IN THE HARVARD STADIUM

A goal-tender is depended on to stop all reasonably long shots and should be chosen for that ability. To stop short shots from a scrimmage in front of the goal, or from an opponent skating in free, requires too much luck to be a fair test, and such occasions arise only from an error on the part of the forwards or defense. A goal-tender is in a position to see and appreciate the danger from uncovered opponents and should insist that his team-mates do their duty in covering up and at the same time that they stand out of line of his view of the puck. To judge a shot he must see the puck as it leaves the ice; so it should never be out of his sight for an instant. Shots below the knee must be blocked off by the legs. The goal tender should get squarely in front of the shot and not lose a second in clearing the rebound to one side. Higher shots are best stopped with the hand.

In this brief description of position and assignment, I have followed out the style of play that has proved most practical for the players in the States. In Canada, where hockey and skating are second nature to the average boy, individual stars are developed whose remarkable stick-work and skating appear to warrant a sacrifice of team-play. Under these circumstances, the player with the puck is allowed to roam all over the ice attempting to weave and dodge into position for a shot, only passing as

a last resort. This style is very spectacular and gives those not engaged in the attack opportunity to rest; but it has been proved again and again that our teams, composed of comparatively inferior players, by keeping their positions and sacrificing individuality to team-play, are a match for the best amateur teams across the border.

The rapid development and present standing of hockey warrant the highest expectations for its future. Few games combine so many of the requirements of a perfect sport; few games combine mental and physical alertness in more nearly perfect proportions. To the spectator, hockey is full of fascination; but to the player, the pure joy of the game exceeds that of any other sport.



LAWN TENNIS

A SERMON ON LAWN TENNIS

BY JAMES DWIGHT

LAWN TENNIS is a curious game. It simply consists in hitting a ball over a net and back again. Nothing else, except that you try to hit it as hard as you safely can, and to put it out of your opponent's reach. It sounds easy enough, and yet think how few can play well. You see people play for years, and play very little better at the end. This would be right and natural enough if they took no real interest in the game, but many of them do take real interest in it.

In other games and sports it is not so. There seems to be no game that so many play and so few play well. Any ordinary man can learn to row, respectably at least, if he gives several years to it. Almost any boy can learn to play baseball. Most men with practice can learn to shoot pretty straight.

And so on; but with lawn tennis it is different. There the multitude are "duffers;" and "duffers" they remain all their lives. It is a few only who come forward out of the ranks.

Why should this be so? For many reasons;

the game is not as easy as it looks. It is easy enough to hit the ball gently out of your hand over the net into some part of the opposite court, but it is not so easy to hit it hard and keep it in court. It has to go very close to the net to do that. Then again, it is not enough to hit it into any part of the court; it must be placed in some particular spot to gain any advantage. It may be necessary to place it within a few inches of the side line. On top of all this, you may have to run at the top of your speed to reach the ball at all.

All this does not sound so easy. Yet there is something more, the faculty of playing the right stroke every time. It comes to a very few men as an instinct. It comes to a larger number as the result of years of thought and practice. To the immense majority it never comes at all; in fact, they do not know that such a faculty exists. Even now we have not got through with the difficulties of the game. Running about the court is not easy work. The distance of each man is not great, nor need the speed always be high; but you must start very quickly, almost, in fact, before you are sure where the ball is coming. It is really a succession of jumps, rather than a steady run. For this you need great quickness and agility, and, beyond all, great endurance. In other words, the game needs young men in good condition to play it well. On the other hand, it requires judgment

and experience that usually come only later in life.

Such are some of the difficulties of the game; and one does not wonder, as he thinks of them, that the game is not better played. Why, then, some one will ask, is the game so popular? Why do so many play it, if they know that they can never play it well? Because the "duffers" have just as good a time as the "cracks." Sometimes I think that they have a better time, even, for with them it is all play; with the better players it is serious work.

I remember well the first time I ever played the game. It was at Nahant, in the summer of '74. A set of lawn tennis had been brought over from England early in the summer; but we had taken no interest in it — too little, indeed, to try it. At length one day we put up the net, marked out a rude court, and started, more in jest than earnest. In a few moments we were playing in earnest indeed. There was all the feeling of personal antagonism which is to me one of the great attractions of the game. My first opponent was Mr. F. R. Sears, an elder brother of the ex-champion. I remember that each won a game, and that in the afternoon we played in the rain in rubber coats and boots. How odd it would look now!

Of course we could not play much, but the interest was just as great. I fancy that one reason for the great popularity of the game lies

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paratory schools and afterward in college, that we have not only a very large class of trained athletes, but boys have learned how important good "coaching" is. They go into the game more earnestly than they used. Owing to the large number of tournaments, they see the best players, and they copy their styles. Each has some one whom he looks up to as a model of what good play should be.

Now, too, they play in tournaments themselves; and playing in public, they are more careful as to their faults and peculiarities than they used to be in private, for fear of seeming ridiculous. In this way they learn to play well at an earlier age than any class before them. Thus they have their agility and their knowledge of the game at the same time. Heretofore I used to say that the trouble with the game was, that few had brains enough to play it properly until they got too old to play it at all.

This, I think, is no longer true; and the change is due to the improvement of the boys. For instance, I do not see any great improvement in the best players in the past few years, but among the middle-class players the improvement is enormous. They are largely young players, and are still improving. The number, too, of good players has increased very much; and in the first class itself there are twice as many players as there were a few years ago.

The practical part of all this discussion is, "Can we do anything to help the advancement of young players?" Something we can do: we can encourage tournaments between the different schools, etc. The interscholastic tournaments held at Harvard, Yale, and Princeton are good examples. If any one doubts the value of this system, let him look at the success of the football competition between the different preparatory schools in training players for the colleges.

By giving tournaments, we help the boys in several ways. They get used to matches, a very necessary thing. They get interested in the game, and their ambition is aroused. They see good play and good players; and they meet every variety of style, instead of having their practice confined to playing against one or two players only.

This is surely good. Can we now add any preaching that can be of use? I hardly know; I look on preaching with great disrespect. Few listen, few believe you, and fewer still take the trouble to try to put the teaching into practice. There are, however, some general instructions so simple that it would seem folly to write them, if it were not that they are constantly lost sight of.

Take a boy at the beginning. Probably he cannot get one of the most expensive rackets. It really does not matter. Some of the cheaper

ones are practically as good, but it matters a great deal what sort of a cheap one he gets. Let him get one of fourteen or fourteen and a quarter ounces, a little lighter in the head than most rackets are made. Have nothing fancy about it, no gold braid, no curious stringing, no fluted handle. It needs to be well balanced and well strung, and that is enough. As to flannels and shoes, there is nothing to be said, except that the shoe should be comfortable and solid enough to hold the foot together, else there is a good deal of danger of straining the foot.

As to balls, I do not know what to say. Balls are very expensive, and last a very short time. A boy cannot expect to have new balls every day; and if he is in earnest, and does not mind taking trouble in order to learn, the best thing that he can do is to practise with two or three balls only. They will need a good deal of chasing, but he will always have them in good condition. If he brings out a boxful, they will all suffer more or less the first day, and he will have to use poor balls till he can get another box. It is a great mistake to use uncovered balls or last year's balls. Neither are of the slightest use.

No advice can be given about courts. One must play on the best available.

To begin with, the player may make up his mind that it will take a long time to play even tolerably well. The first thing to do is to learn

to hit the ball straight — that is, with no side twist. The ball should go directly down the court. If the player stands on the central line, the ball should drop on the central line on the other side of the net. This is the very essence of a good stroke. If you can play straight, you can tell where the ball is going. If you have a curve on it, you will be constantly hitting out of court on the side, or else bringing the ball into the middle of the court when you intended it to go down the side line.

Next in importance is the length of the court. You must learn to hit from one base line to the other; that is, to hit from the back of your own court and make the ball drop about a yard from the other base line. A moment's thought will show that if the ball goes only as far as the service line, your opponent can easily come forward to volley.

These two points are the foundation of the game.

As to the service, don't bother about it. A very fast service is terrible to bad players; but good ones return it easily. Wait till you play fairly well before you try for a very fast service. Next comes the volley. Wait till you have brought the ground strokes under control before you begin to practise much volleying. When you do begin, keep one point clearly in mind: you must always hit the ball. You must not let it hit your racket. The only exception

is when you are close to the net; then you may block the ball, if your opponent is far back. Don't try any wild "smashing." Hit quietly, but always hard. As a principle, never hit a ball easy; always make a real stroke. One word more. Don't play very long at a time. Three or four sets are enough. Always play with a better player if you can, and take odds enough to make him work as hard as he can.

Win quietly; lose quietly; don't get angry.

LAWN TENNIS

BY RICHARD NORRIS WILLIAMS, 2D

But a very few years ago tennis was practically unknown; the game naturally existed but interest in it was at its lowest ebb. Why and for what reason it has grown so rapidly since is impossible to say, but one of the great factors was the Davis Cup, presented to the U. S. N. L. T. A. by D. F. Davis for international competition. No history or article of any length can be written without mentioning this famous trophy; it is now the nucleus around which everything centers.

The trophy was given in 1900 but at the time few paid much attention to it and certainly no one could predict the future which it has now attained. It was really not until 1902 that the public became interested in it. The previous year the Cup had been successfully defended against England, but in 1902 it is said that ten thousand people watched Whitman, Larned, Davis and Ward defend against the attack of Pim, R. F. and H. L. Doherty. The Americans were again successful that year, and aided by the great crowds that watched the matches, the

game naturally was looked at with more favor. People started talking about it, and with the international flavor which it had received and the talk in the papers people began taking the game up with more earnestness.

In 1903 the Davis Cup was lifted by the Englishmen and was destined not to return for ten long years. The matches were played in Boston on the famous grounds of the Longwood Cricket Club. England won by four matches to one, and the only match that we won was by default, R. F. Doherty having injured his shoulder was unable to play. On paper it seems an overwhelming defeat, but all the matches were terribly close and, as one writer expresses it, "First it wavered one way, then another, and at times was exactly even (the two singles were going on at the same time), until not only the players but the gallery itself was worn to a frayed and jagged edge."

In one way, however, our losing the Cup was a good thing. The next year's matches were played in England, and it naturally interested the Continental nations having the Cup played for in Europe. From that year the list of nations challenging increased every year. In 1905 Australia challenged for the first time. Her team was composed of Brooks, Wilding, and Dunlop. She did not win that year, being defeated by America's team, composed of Larned, Wright, and Ward, in the final. It is curious

to note that the Australian team of 1905 is the very one that she proposes to send to America this year (1914) to challenge us for the Cup.

In 1907 Australasia was at last successful and took the trophy from England. Her representatives defeated America (B. C. Wright and K. Behr) in the preliminary tie, and then defeated England, whose team was composed of A. W. Gore and H. Roper-Barrett. During the time the Cup was in far-off Australia international tennis was very much handicapped. It was too far away for many nations to send teams, the expense and time were considerable; only England and America remained true to the cause. They challenged every year, played each other in the preliminary tie, and America (generally winning the tie) sent a team to Australia. Every year it returned, but without the Cup. At length in 1912 America defaulted, no players being able to make the trip, and England, after having easily disposed of France, took the long voyage and a long chance at the Cup. Luck was with them, though, and on the 1st of December, 1912, the news was flashed over the wires that England had won the Cup. I do not mean to say that England won just because the luck was with them. J. C. Parke, the great Irishman, was the luck, for he it was who beat Brooks and made the 3-2 victory possible. The English may well be proud of their team, they did a big thing and

they deserved a great deal of credit. Their team was made up of Cap. C. P. Dixon, J. C. Parke, A. E. Beamish, and F. G. Lowe. England was not to hold the Cup, however, very long. In 1913 seven nations challenged, viz., South Africa, Canada, Belgium, Germany, France, Australasia and America. Out of this long list of entries America came through successfully and challenged England. This time America regained the Cup. For ten years she had put teams in the field and every time her team had been defeated, but the Cup was at last to return to its native shores. The English team was composed of Captain McNair, C. P. Dixon, J. C. Parke, H. Roper-Barrett, and A. W. Gore; and the American team of Capt. H. H. Hackett, M. E. McLoughlin, R. N. Williams, 2d, and W. F. Johnson.

This short story of the Davis Cup is a good illustration of the growth of the game. At first it was but a match between England and America, but gradually it developed into a championship of the world, with practically all the nations entering at one time or another.

Among other circumstances which have contributed so much to the development of the game is the great interest shown by the younger men and the boys. There was a feeling prevalent, and unfortunately it still prevails in some quarters, that tennis was but a "girl's game." In one way this is very natural; to the onlooker

who has never endeavored to play the game it seems a perfectly easy thing to just bat a ball over and over again. Until that feeling had vanished tennis stood at a standstill; but fortunately it was soon found out that athletic qualities were needed to be a tennis player. Men were then no longer " ashamed " to play tennis and its success was assured.

I have heard many discussions as to whether tennis is " born in a man " or not. I am sure I do not know, but whether it is born in a man or not, it must be developed and made to grow. I take it for granted that the reader has played the game for some time and knows the fundamental points, for my object here is not to teach the beginner but to try to help the man or woman who has taken interest in the game and is anxious to go ahead.

A thing that I have found of great help is to watch good players; but try and watch a little with your head, too; I mean by this, don't just watch the stroke and the ball, but try and see if you can fathom what the player is trying to do, that is, what his tactics are. See for yourself whether they are successful or not and why they are or are not! There is one great danger, though, in watching, and that is that you will try to copy — never do that — copy the idea if you think it is a good one, but don't copy the execution of the stroke. A man who copies a style will never get very high. Tennis is an

individual "something" — that is the only way I can explain it. You must play your way and not the way some other person does it. I have seen many players who had the natural ability to play but who copied some favorite's style and remained in a rut.

If he really has the desire to become a first-class player and has the backbone to do so, I really think that any person with a reasonable amount of ability can succeed. Even if he cannot make the "first ten" he can come very close to it. The only way to do this, however, is to map out a course for yourself and stick to it. It will be very long, but you must expect that. You cannot possibly learn how to play well in a few weeks. The first thing you must do is to give up all idea of winning, or even trying to win; for about two long years you must give up entirely to practice — practising shots and that is all. I am, of course, still talking to the man who has had some experience and who can play fairly well but wishes to get much farther.

When you are practising, however, don't lose your head, but always *think*. Don't practise your favorite shot — that won't help you much — but practise those shots which you try to "cover up" when you're playing a match — the shots you feel you are weakest in. Of course you can't always practise — sometimes you must have a good time — do that occasion-

ally; it will relieve your mind. Now when you are working at these shots don't try to play them hard, but place the ball. Do it quietly, and by and by when you are sure you can put the ball any place you wish, you can gradually augment the speed. But don't worry about speed; that will come of its own accord when you are able to put the ball with accuracy wherever you wish it. Be sure that your game does not get one-sided, that is, always playing from the back of the court or always at the net. You must learn to play both about the same. You will of course have a natural inclination to play one better than the other — that will be your strong point — but don't neglect the other part. You must be able to fall back on that in case something goes wrong with your favorite game.

There are many small points on which it is impossible for me to give you any advice. These are, for example, how to hold your racket, how far from the face, how heavy it should be, how high you should throw the ball to serve; all these details you must find out for yourself; there is no rule, the individual must suit himself. If you are in trouble, however, ask a friend who knows something about the game to watch you, and he will perhaps be able to detect some errors. There is one thing, though, I might say, and that is, do not get too heavy a racket; there is a tendency to get a fourteen and one-half ounce racket just because

so-and-so uses one. Don't be misled by that; a heavy racket makes your motions slow and you hit the ball too late.

I should now like to say a few words concerning the service. Some years ago (about 1901) everybody was literally taken off his feet by the new service just then invented by D. F. Davis and H. Ward; it was what we now call the American twist service. I remember very well when, in 1905, H. Ward played H. L. Doherty in the Davis Cup (London). Ward literally walked through Doherty for the first two sets. The score was perhaps close, but Ward always held the upper hand. As A. Wallis Myers, the well known English player and writer, puts it, "It was like nothing ever seen in the center court before or since!" I happened to have a seat near the umpire's chair, and as "H. L." changed sides I heard him say, "I can't play against this man!" and then Ward went absolutely to pieces and "H. L." ran out 6-1, 6-2, 6-0 — a cruel ending to such a match. What was the cause? The service is too nerve-racking and exhausting. Ward could not keep it up and he lost out in the long run. I do not mean to advise against a twist serve, for now it is slightly moderated and not so exhausting, but it is much more so than the ordinary fast, well-placed serve, and then it is a very hard serve to play well. That is one of its great disadvantages, and if not well played

it is a very easy service to return. To sum up, I might say that the twist serve is a very fine implement of war, but a very hard one to acquire, and very disastrous for the owner if it is not well used. A very extraordinary service is really not an essential; by this I mean, you don't need a very fast or a very twisted service. The object of a serve is not so much to win a clean ace, as so many people think, but to place your opponent in an unfavorable position so that you can win on his return. You must not look at the service as one terrific first serve in the hopes of making an ace, and then a second serve, "just get it over any old way!" Your object in serving is to get into position, in a position to command the rest of the play, and a slow but well-placed serve can do this for you. If you have speed, all the better, but often even the best players get so engrossed in speed that they forget about placing the ball, and speed without placing is practically useless against a first-class player.

We may now take up for a few moments the "base-line" and "volleying" game. Years ago, when the game first started, everybody without exception played from the back of the court, but gradually men began going to the net, and when Davis and Ward invented the twist service, there was a great tendency to "rush" the net all the time. The tendency now is to combine both and this is what we

might call the modern game. The question will probably be asked: When should you go to the net and when stay back? Of course the old school of base-liners like S. H. Smith and A. W. Gore would say go to the net only when forced, and the great net-players, like B. C. Wright and N. E. Brooks, would say, "Stay back only when forced." It is really impossible to answer that question on paper — conditions must dictate the process. The ideal would be to manœuver from the base-line, prepare your shot, then go up to the net and finish the point. The practical process, however, is first think and find out what kind of a player your opponent is. If he is a great volleyer, take the net away from him; if a great base-line player, try to beat him from the base-line and the net. In the latter case it is much harder than in the former, for in the first place, when you take the net and stay there, your opponent is unable to go to the net and he will find himself in deep water. In the second place, however, you cannot take possession of the back court of your opponent. This is the time to show head-work. You must change your game all the time — keep your man guessing — first play short shots — then long ones — stay in the back court, then storm the net. This back court game has played havoc with many an American player — just look back on S. H. Smith's record in the Davis Cup matches against our men, it

is far better than either of the Dohertys. I don't think that his game would be so disastrous to-day, for we have learned the lesson, but in those days we never thought of playing the base-line, and the net was the only game we knew, and when that went back on us we had no drives to fall back on. I believe the way to beat this base-line game is to put as much variation in your game as possible, being at the net about three-fourths of the time. In this way your opponent won't get time to get into his machine-like passing shots. The object is of course to "cut up" his game, for a driving game is a clock-like game, which if broken up will go all to pieces. Be careful, however, not to be beaten just by a reputation. To illustrate, let us suppose your opponent is known for his net game. Just don't start rushing the net without finding out if he is not perhaps playing that very day a better base-line game than a volleying game. This often happens; a man can very well lose his regular style for a day and play an entirely different game.

There is still one other thing I should like to mention, and that is effective volleying. I have seen many good players go to the net and have opportunity after opportunity to finish the point and yet not be able to do it. In a single, when at the net you should hardly ever volley more than twice. I mean that you must finish the point at least on the second re-

turn made by your opponent. When at the net, you should command the situation. Your volleys must be either very short or very long. Never volley into the middle of the court, your opponent can get it too easily! Do not let your opponent outplay you when you command the situation, it is demoralizing. When you have the chance take the risk, but finish the point whatever you do!

Before I close, there are a few facts that I should like to mention concerning tennis in general. When smashing, try jumping off the ground a little. M. E. McLoughlin, the best smasher in the country and probably in the world, always leaves the ground some four or five inches, and sometimes more. If you have acquired a good smash, of course, stick to it, but if you are not satisfied, try this "stunt," it might help you; I personally believe it to be a very good idea.

In general when you take shots off the ground, try standing in close — that is, take the ball when it is still rising or anyway at the top of its bounce. It is a very hard thing to "get on to" but if once acquired will help you more than anything. If you wait too long and take the ball when it is dropping you give your opponent enough time to take command of the situation, and you will be standing far back of the base-line, which leaves all the service court open and gives your opponent the op-

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SWIMMING



SWIMMING

THE introduction of the crawl stroke has revolutionized swimming as a competitive sport. The principle of this stroke is so simple in its application and lends itself so readily to adoption by boys of almost any physique that there are to-day hundreds of boys swimming the crawl with speed who would have found the old trudgeon and side-arm strokes hard to master. A thorough understanding of the theory of this stroke is such material aid in learning it that I am going briefly to run over the history of the crawl, and show why it is better as a racing stroke than any other.

There is a story of its origin which, whether true or not, illustrates so well the principle on which the stroke is based that it will bear repeating here. One of the Cavill brothers, all of whom were great swimmers, agreed to win an important race with his feet tied tightly at the ankles. To his great surprise and to that of the spectators, he not only won the event but made faster time than he had ever accomplished before. With his feet tied as they were, he naturally could not make the scissors kick of the trudgeon, and so he had allowed them to drag



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pends upon the lessened resistance, it is evident that anything which presents more than the minimum surface to the water decreases the effectiveness of the stroke. So in swimming the crawl, we guard against drawing the legs up at the hip or lifting the head out of the water in a way which will increase the surface resistance.

If the boy in learning the crawl will bear this principle in mind, he will find it an easy stroke to master. It lends itself readily to individual modifications. In fact there are as many ways of "crawling" as there are swimmers using it, just as there are strides and styles of running, and coaches have learned that it is not necessary or wise to make their pupils conform to a set style. A few points only must not be forgotten. The body should lie easily and loosely in the water; the paddle of the feet, while it may be adjusted to individual conditions, should not become so wide as to form an angle of resistance; and most important, the pull with the arms should be straight from the shoulder, a free, clean drive, not a wavering zig-zagging stroke. The manner of breathing is important. In the early days it was usual to swim with the head under water and hold the breath as long as possible. It is now customary to breathe as frequently as the swimmer desires. He does this by merely turning the head to one side and breathing out under the

arm which has just finished its stroke. This trick, although it is hard to learn at first, is desirable because it does not stop the progress of the body as does taking the head entirely out of the water.

The boy who wishes to be good in racing should learn to start fast and to take the turns well. Both can be learned only by practice. The start should be a hard spring and a long shallow dive. Many beginners make the mistake of diving too deep and then, in their rush, starting their stroke before the surface of the water is reached. Both are equally disastrous to a good start. The swimmer should plan to get as far as he can on his spring, just to cleave the water's surface and start swimming the instant the hands reach the surface and not an instant sooner.

In racing in a tank, the turn is very important. It takes hours and hours of practice to learn to turn well. The principal things to bear in mind are to judge the distance of the turn correctly, and not turn before the end can be touched; to place the hand squarely against the end of the tank; to draw the feet as high up as possible so that the turn is made as nearly as can be in the plane of the surface; and to make a hard shove by placing both feet squarely against the end. In turning, as in the starting dive, swimming should not be commenced until the hands are at the surface.

Learning to swim should be a part of every boy's education. It adds so much to his health, happiness, and safety that it cannot well be neglected. With the building of large numbers of municipal, Y. M. C. A., school, club, and college swimming pools, it is a rare boy who has not the opportunity to learn to swim. During the past year or two the Y. M. C. A.'s through many new swimming pools have been teaching thousands of boys to swim. In Boston, seven thousand boys were taught the crawl in only a few weeks' time. By the use of "water-wings" boys who had never swum a stroke learned the crawl in three or four lessons. This stroke is so similar to the "dog paddle" in the ease with which it can be mastered, and so striking in its results that boys pick it up in an amazingly short time. With swimming so easily learned and opening such vistas of sport and recreation, to say nothing of the protection of life, can any boy afford not to know how to swim?

THE ART OF SWIMMING

BY HARRY ROSE

SWIMMING is an art so manly, so graceful, and so useful, that no one ever regrets the trouble of learning. And every one can learn, unless he be physically infirm or naturally a coward.

Dr. Franklin truthfully said: "The only obstacle to the acquirement and improvement in this necessary and life-preserving art is fear." The coward had better stay out of the water. He is safer on land. But he is not necessarily a coward who is afraid to plunge boldly into unknown water. Such a reluctance is natural; the best swimmer, unless he be foolhardy, would not do that. Some of the best swimmers have learned in shallow creeks, have practised alone until skilled, and then polished their self-education in deep water.

The first lesson should be taken in a tideless river or quiet stream, the depth of which you have previously studied. On entering the water, wet your head and neck thoroughly, and before submerging the body stand for a few minutes knee-deep.

Having fixed your eye on a favorable spot,

advance into the stream until breast-high. Now face the shore, and prepare for striking out. Lie gently on your breast, keeping head and neck upright, breast distended, and back bent inward. Withdraw the legs from the bottom, and immediately strike them out, not downward, but horizontally; strike forward with the arms simultaneously with the feet, holding the hands like the blade of an oar when in action, fingers closed, the thumb placed by the side of the first finger, a little below the surface; draw them back again while gathering up the legs for a second attempt; and thus push forward, making use of the hands and feet alternately. The farther forward you reach, the faster you will swim. The secret of a good stroke is to kick out with the legs wide apart. The propelling power is secured by the legs being brought from a position in which they are placed wide apart to one in which they are close together, like the blades of a pair of scissors. In this position the heels should touch each other; and in drawing up the legs, the toes should be pointed backward to avoid the resistance of the water against the insteps.

It may happen that you will swallow water in your first efforts; but this should not discourage you, neither should the fancy that because you make but little advance you are not capable of learning to swim. Every beginner has his mishaps, no matter what the art.

Some lads will learn to swim "dog-fashion" quicker than any other style; and while it is not at all graceful, it gradually leads into the smooth, even, scientific breast-stroke, and therefore should hardly be discouraged. Every boy, of course, knows that "dog-fashion" is that frantic motion of the hands and legs like a large paddle-wheel, in which more bluster and foam than headway are made; and every boy likes to swim "dog-fashion" occasionally, often just to "show off," or to imitate some friend not so far advanced as himself. But, "dog-fashion" swimmer, don't let such mimics dishearten you; keep right on, and soon you will master the breast-stroke as we have described it, and by studying some of the tricks in this article, you may soon have the laugh on your mockers.

Having mastered the breast-stroke, which is adapted to long-distance leisurely swimming, the next movement is the side-stroke; it may be the left or right. You can accomplish it by shooting the right arm forward, while the left, like an oar, is forcing the water back, and the legs are propelling the body onward. This stroke, which is a powerful one, will move you on like clock-work, and for long-distance, moderately fast swimming is excellent.

Then follows the alternate right-hand, left-hand movement, or the overhand-stroke. This is perhaps the most graceful and convenient of

all. In reaching forward, the arms are alternately brought out of the water, and then curved so that the tips of the fingers enter again directly in front of the head. This movement can be made very graceful by daintily skimming the palm along the surface, and merely dipping the water before it disappears. Advancing the right and left sides of the body alternately, secures greater continuity of motion and materially reduces the friction; in conjunction with the powerful propulsion of the legs, it sends you along with the speed of a fish. As it is very swift, so it is very exhausting; it is, therefore, best adapted to racing, say fifty or one hundred yards.

I once saw Dennis F. Butler, the ex-champion of America, finish a seven-mile race against the tide with this overhand-stroke; and he did it in a peculiar manner. With every dip of the arm his head would go under water; and thus he lolled, yet fairly plunged for the goal, taking breath every time he turned on his sides.

The boy aspirants to racing honors will do well to practise this movement diligently.

Back performances are more easily learned than those on the breast, and floating is quite simple.

Turn yourself over on your back, as gently as possible, elevate your breast above the surface, put your head back, so that your eyes,

nose, and chin only are above water. Keep in this position with the arms and legs extended, the latter perfectly rigid. Now, move the hands from right to left horizontally, fast or slow as you choose, and you will find yourself buoyed up and gradually moving along. If you wish to make greater speed or swim on your back, begin to work your legs, precisely as in breast swimming, taking care not to lift the knees too high nor to sink your hips and sides too low. Keep yourself as straight as possible. You are now progressing finely — getting along easily and speedily. If your arms grow tired, lay them on your breast, but keep the legs going; thus you can rest your arms; if your legs tire, let them remain quiet, and renew work with your hands. Thus alternating, you will find yourself able to cover a long distance without fatigue.

Just at this stage of progress you will be anxious to dive. There is great sport in this; but it requires practice to dive "cleanly."

Diving may be performed from the surface of the water, when swimming, by merely turning the head downward, and striking upward with the legs. It is, however, much better to leap in, with the hands closed above the head, and the head foremost, from a pier, boat, or raised bank. The proper attitude for a "clean" dive — which means without splashing more than the sharp cut of the hands — is

to place the hands over the head, close together, give a sudden spring, and descend through the air, heels together and body perfectly stiff. Your hands will cleave the way for your body, protecting your head, and you will pass beneath the surface just like the inimitable bull-frog, the master-diver.

By striking with the feet, the same as in swimming, and keeping the head toward the bottom, you can drive yourself to a considerable depth.

If you wish to reach the surface, turn your head upward and work your hands, up and down; you will ascend like a flash.

To turn under water, merely swim in whichever direction you wish.

Some swimmers prefer to keep their eyes open while beneath the surface; I do not consider it wise, as the strain is great, and often foreign substances in the water are liable to injure the eyeball. Of course, if you dive for an object at the bottom, you will need to open your eyes to find it; at other times I advise you to keep them closed.

Swimming under water is accomplished by the ordinary stroke, but take care to keep your head a little downward and strike a little higher with your feet than when swimming on the surface.

Perhaps as easy a way as any of learning to swim under water is by beginning, in shallow

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without the use of the legs. But it is well to practise both of these movements — they may save your life in the event of cramp or accident.

To show the feet while floating, bend the small of the back downward, support yourself by moving your hands to and fro just above your breast, and stretch your feet above the water. Now, if you wish to swim on your back, feet-foremost, make precisely the same stroke as in breast-swimming.

To swim with one hand out of the water, say the right, turn on the left side, and vigorously use that arm, and the legs.

If you wish to turn while on your back, keep one leg still, and embrace the water beside you with the other; you will thus find yourself turning to that side on which your leg by its motion embraces the water, and you will turn to the right or left according to which leg you use in this manner.

There are a variety of feats performed by expert swimmers; such as floating on the back with the arms above the surface; taking the left leg in the right hand out of the water when swimming on the back; pulling the right heel by the right hand toward the back, when swimming in the common way; throwing somersaults in the water, backward and forward, etc., for which no particular directions are necessary, as you will be able to do them and any tricks which your fancy may suggest.

A few hygienic hints for swimmers will surely not be out of place here.

Do not bathe too soon after eating; an interval of an hour and a half at least, should be allowed. Do not bathe when tired out, either mentally or physically — always wait till you feel rested. The best time is in the forenoon, between breakfast and luncheon.

If overheated on arriving at the water, do not remove your clothes until the excessive feeling of heat has passed, and your breathing and circulation have become regular; never expose the skin to the direct action of the air when overheated.

Keep in motion after you have gone into the water; do not stand around chatting and lounging. As soon as you have swum sufficiently, dry yourself thoroughly, put on your clothes, and keep the blood in circulation by exercise.

Do not stay in the water too long — half an hour is long enough for the strongest man. More delicate persons will find that too much; for some, ten minutes should be the limit. Fifteen minutes is a good average for all.

If seized with cramp, endeavor not to be alarmed, but strike out vigorously with the affected limb, or, turning on the back, extend it forcibly into the air. By paddling with the hands you can easily reach shore, or keep afloat until assistance is rendered.

And, never, never "duck" your weaker brother. The poor fellow might take fright, and never again essay to learn; besides, you might accidentally drown him.

In conclusion: if you have followed these suggestions, not merely mentally, but in the "aqueous element," as the student would say, you will have become dexterous swimmers, and soon shall be able to join Byron in this stanza:

"How many a time have I
Cloven with an arm still lustier, breast more daring,
The wave all roughen'd; with a swimmer's stroke
Flinging the billows back from my drench'd hair,
And, laughing, from my lip the audacious brine,
Which kiss'd it, like a wine-cup, rising o'er
The waves as they arose, and prouder still
The loftier they uplifted me."

SPORT IN THE WATER

BY ALEXANDER BLACK

ANY one who has ever seen a tub race — and those who have not may be assured that they have missed one of the funniest sights in the world — will remember the screams of laughter and little shrieks of momentary fear that come from the spectators when the first conspicuous tub turns wrong side up, and dumps its occupant head-first into the water. For the moment, it seems to those of the audience who are unskilled in swimming as if the overturned racer were certain to drown. But very soon his head pops up through the foam, the tub is righted, and, if the racer is skilful, the uncertain craft is manned again. By and by the spectators begin to realize, if they never have before, that there is really no danger that any one will drown, and every new mishap brings more laughter and fewer sounds of fright.

In fact, while it is easy for everybody to think of sport on the water, a comparatively small number are able fully to appreciate the idea of sport in the water. The seaside bather cannot be said to know what water sport means; for

the seaside bather, in many cases, does not know how to swim. Only those who know how to swim can really know what water sport is; for only these can know what it is to be free, safe, and "at home" in the water.

Probably water sports are as old as any other kind of sports. The very fish in the depths of the lake, in the shallows of the brook, or in the clear green depths of the sea, are continually giving a hint of the gayety that is to be found in the water. Life under water has many amusements. Seals have set games that they romp in, day after day, when the weather is inviting. Naturalists tell wonderful stories of the fishes and of those animals who can get along very comfortably both in and out of the water. And does anybody suppose that the boys of antiquity did not follow the sportive example of the light-hearted frog?

Among wild people living near any sort of deep water, there have always been water games. Indian boys were experts in various contests and festivals in the water, and some of the South Sea Island boys seem to get along about as well in the water as out of it.

Tub-racing, which is a very old sport, is to be classed with sports in the water, like swimming, rather than with sports on the water, like rowing or sailing; for it is understood that the tubs turn over a good deal, and that cleverness at swimming and manœuvering in

the water will come into play. And of course tub-racing gets its main excitement and fun not so much from the mere progress of the tubs as from the continual chance of accident — that is, the comical accident of the racer's plunge into the water.

Somebody who understood how much delight was to be had from the make-believe danger of this kind of accident, as well as from other absurd intentional blunders, invented the modern water circus. For there is such a thing as a water circus, a circus with a ring — but a ring of water instead of sawdust.

Away back in the old Roman days the water circus was a wonderful affair. Arenas would be flooded, and naval battles would be fought between great galleys for the amusement of the emperor and the people. Things are not on quite so vast or serious a scale now, however; and the water circus, as it is seen in Europe to-day, is but one of the features of an ordinary circus. But, the American reader will ask, how can a water circus be part of an ordinary circus? Can they flood the ring? And even if they did, would it be deep enough for any kind of water sport? The fact is, that they do not flood an ordinary ring, which would not hold more than an ankle-deep puddle; but this is the way it is done:

When that point in the circus program that is set for the beginning of the water show

has been successfully reached, a small army of clowns and "supers" begin dragging into the arena sections of an iron tank, which, amid much ludicrous play on the part of the clowns, is fitted together in the ring, before the eyes of the amused and expectant audience. The pieces lock tightly together, and a huge roll of rubber that is tumbled into the circle with many comical struggles and mishaps, is spread out to make the bottom of the lake thoroughly water-tight. When this has been done, a bridge, generally with a double arch and a central platform, which has been suspended overhead with the trapeze bars and other circus paraphernalia, is lowered to the little lake and duly fits into its place.

On one side of the ring — now the lake — a series of embankments rise to the musicians' gallery. At the proper moment, generally when the attention of the audience is directed to the final preparations in the circle below, there is a gush of water from under the gallery, and a fine cascade splashes its way over the embankments down to the now completed tank. Generally somebody screams at the first roar of the water; then everybody joins in shouts and stampings of applause at the sight of the waterfall, which dances and sparkles and splutters in the rays of the electric light. The cascade is, indeed, one of the great features of the show; for the electric glare changes in hue,

until the bubbling torrent, from seeming like a flood of very green sea-water, turns to a crimson and then to a golden shower, and is once more foaming white again.

And then, while the water is splashing, and the people are laughing and chattering, and the band is performing with great energy, the clowns toss several screaming ducks into the lake, which is, of course, in a very turbulent state, and gives the ducks a good deal to do for a little while. Very soon, however, the ducks make themselves at home, and the spectators take as much interest in seeing the fowl swim about as if the sight really were very novel indeed.

When once the tank is quite filled, a decided change comes over the scene. A skiff containing a young man and a young woman — who is much afraid of the water — makes its appearance, the young man rowing with an air of conscious elegance and dexterity. A group of dancers comes skipping over the bridge to the jaunty strains of the band. Various picturesque promenaders follow the dancers. Then a delightfully solemn, matter-of-fact squire makes his appearance, fishing-pole in hand, and casts a line with every sign of lively expectancy. Presently he has a most extraordinary bite, one of those bites that you read about in the fish-story column of the newspaper. The squire, amusingly bewildered, tugs at the pole, and

raises what seems to be a tremendous fish, whose struggles spatter the occupants of the skiff, and completely destroy the self-possession of the squire.

While things are at this crisis, the spirit of mischief seems to break loose. Some mischief-makers who appear on the bridge complete the squire's anxiety by knocking his hat into the water; and very soon the fisherman himself manages to tumble in, pole, line, fish, and all. A country woman with a basket, who is solicitous about the squire's fate, falls with a great splash, and so does a dude, who has been shocked to discover that his shoes are wet. Matters are considerably jumbled in this way when a policeman appears on the scene. The policeman wears beneath his uniform a rubber suit which has been inflated to a wonderful size. He wobbles upon the bridge, looking about with great concern and indignation, asking what all this means. In his efforts to restore order or rescue somebody, he shares the fate of the others, bouncing into the lake in a manner so absurd as to excite fresh screams of laughter from the audience. The people in the water, discovering how buoyant the fat policeman is, at once seize upon him as a life-preserver, and the dude actually clambers astride of the portly figure, while the spectators laugh until the tears come. When the skiff has been overturned, and everything in the water is in a state of the

liveliest confusion, a great spurt of water rises through the center of the bridge, the spray of the sudden and graceful fountain is lighted by flashes of colored fire, and the water circus is at an end.

I think it will appear to be quite natural that the water circus should be very popular. It has already appeared in this country, though not to the extent it has been given in Europe. It will probably become more popular with us as time goes on, though perhaps an entertainment in which so many actors have to run the risk of colds and rheumatism may not be considered very promising in our climate.

But if this should be an objection, why is it that the latest and most popular of our water games is played almost wholly in winter? I am speaking of water polo, which within a few years has been growing in favor, until it is now one of the most cordially welcomed of all our sports. Temperature has, of course, a great deal to do with a game that is pursued in the costume of the swimmer. In the swimming-tanks of athletic clubs or gymnasiums, the temperature of the water can be regulated, and the temperature of the air can be brought up to the warmth of what has been called the " Turkish bath " atmosphere. There is no reason why the same conditions cannot be supplied in summer, when the air is naturally warm, and the water in a tank, without artificial heating,

would soon be sufficiently warm. Undoubtedly there has been, hitherto, little water polo in summer, because in the warm season outdoor sports of another kind tempt the athlete. Lake, river, and deep-sea swimming lure him away from the narrow dimensions of a tank. But as water polo gains in popularity, and begins to take rank as something more than a game to be played indoors and in winter, when other forms of athletic sports are comparatively inaccessible, it is less likely to be set aside in the summer season. Indeed, water polo is continually on the increase as a summer sport.

Our American water polo is simply football played in the water. It might seem more out of place to use the term football in a water game which does not permit the kicking of the ball, if modern football had not done away with a great deal of the kicking that once seemed the special characteristic of the game. The fact that football has, paradoxically, become so much of a hand game, makes it much more feasible than it once might have been to transfer the game to the water.

Water polo is not yet an exact science, either as regards the manner of the game or the place where it is played. There is much difference of opinion as to the proper size of the tank in which it should be played. Some players hold to a deep tank, in which everybody would have to swim throughout the game. Others are

much in favor of a tank with a uniform depth of five feet or thereabouts, so that the player could stand when swimming was not demanded. Most of the games thus far have been played in the regular athletic club tanks. These are four or five feet deep at one end, and increase in depth toward the other end, until there they hold six feet or more of water. Unless special water polo tanks are constructed, indoor games will probably continue to be played in the tanks that are comparatively shallow at one end — although four feet of water is not to be despised in the opportunities it gives the swimmer.

A water polo team consists of six men, who are organized on the same general plan as a football team. Thus, there is a center rush, two end-rushers, a halfback, and two fullbacks or goal-keepers. The goal-boards are about four feet long and twelve inches wide, and on each is painted the word " Goal " in large letters. The boards are about eighteen inches above the water-line. The goal-line is an imaginary line, running between two marks on the sides of the tank, four feet from the end. The tank we shall suppose to be one hundred feet long and twenty feet wide. As the side with the shallower end has somewhat of an advantage, choice of end is decided by toss at the beginning of the game, and the sides alternate in position.

Only the fullbacks or goal-keepers are entitled to remain within the goal-line; and it is one of the duties of the judges or umpires, who stand each at a goal, to declare a foul against any player who enters the goal enclosure ahead of the ball.

There are several points of difference between the English and the American game. In the English game, as I understand, the player is permitted to strike or push the ball with his hand. He may interfere with an opponent only when the opponent has the ball in his possession. In this country a player may carry the ball in any direction, and may "tackle" any player who either has the ball or is within three feet of it.

At the moment before the beginning of the game the teams are marshaled on the platforms, at the respective ends of the tank, as determined by the toss. It is a moment of expectancy. The twelve young men in their swimming costumes make two attractive groups. The umpires, timekeeper, referee, are all in place. The audience gives signs of that tension exhibited at the moment in football when the two teams, drawn up in determined lines, await that first movement of the ball which begins the excitement of the game.

"Go!"

The ball is in the middle of the tank, and with a great splash the players are plunging

into the water. The two center rushes are swimming toward the ball from opposite sides of the tank, the other players scurrying into position behind them. For a few seconds only there is the suspense of not knowing which leader will first get the ball. Almost at the same instant the Red and the Black reach for the dancing globe. But the Red gets it; and quick as thought he snaps it to the halfback, the end rusher continuing to plunge toward the opposite goal. The halfback, clutching the ball, dives out of sight for an instant, but is soon seen on his way toward the left center of the tank. The center rush of the Blacks makes a great sweeping stroke for the ball, and the left end rusher of the Blacks is right in the swimmer's path. There is a big fluster of spray, and the left end rusher of the Reds is seen swimming with the ball that was cleverly passed to him. But the halfback of the enemy is alert, and by a swift side-stroke wrenches the ball from the daring rusher, and makes for the other side of the tank. Here two of his team make a lively effort to keep a passage for him. Five swimmers are soon in such a tangle that it is difficult to determine who has the ball. Three or four of the figures disappear beneath the foam; and one man, another of the Blacks, is seen swimming hard for the Red goal.

There is a great cheer from the spectators as the lusty youth cleaves the water with his

free left arm. But the swimmer can gain but a few strokes. He is seized by two of the Reds; he writhes, dives, and appears two yards away, rising, unfortunately, under the very nose of the Red left end-rusher, who has waited for him. Two other Reds are but a stroke or two away, and all of them disappear and rise again. The head of the Black with the ball cannot be seen by the eager spectators. They are holding him under. Yet he seems determined not to give up the ball. Reënforcements from both teams are now at hand. Two of the Blacks dive with the purpose of passing the ball. But a man with his head under water and three or four men struggling with him cannot discriminate very readily in such a matter. The plucky fellow, who cannot tell whose hand is friendly, must soon let go the ball, and who shall get it when he does let go?

Then all at once two of the players who have been on the outskirts of the struggle discover that the ball has come to the surface a yard away from the outer line of the scramble. A Red now has the ball. He is making straight for the right of the tank. The crowd of swimmers turn upon him. A signal has told the Reds that the ball is in their possession. Three times the glistening rubber changes hands, the Reds still carrying it nearer and nearer to their opponents' goal. The Black goal-keepers gird themselves for the struggle beyond the

goal-line. Twice the Blacks get the ball. Twice the Reds recover it. The spectators are finding it hard not to shout improperly loud, and not to stand on the seats. The shouts in the water often end in a gurgle, and a seething hum is punctuated with an occasional splash on the surface.

In the scramble at the goal-line it is again impossible to tell who has the ball, but the Reds are holding all the ground (or water) they have taken. The effort is to touch the goal-board. This is no easy thing in the presence of two goal-keepers with arms like a blacksmith's. The water is white with foam, and every swimmer is doing his utmost to turn the crisis to the advantage of his side. When the referee's whistle announces that the Reds have won the goal, a congratulatory shout greets the panting and dripping figures that leave the water for a few minutes' breathing-time.

There is no reason in the world why the exhilarating game of water polo should not be played in any water that is without current; and, even in a river with moderately strong current, it would be possible to play it across stream, the goals and limits being once definitely placed. Probably, however, the popularity of the game will result in the arrangement of warm weather arenas for the sport, where everything can be done scientifically and in order. I think it has been suggested that there is a good deal of

" science " in water polo. While the game is being studied out, there will be a good deal of roughness. But this roughness will in great measure diminish as skill and precision are acquired.

Whatever may become of water polo, the new sport has certainly given a great " boom " to swimming. All athletics in the water are based on the swimmer's art; and when swimming is surrounded by proper precautions against accident, it is one of the most healthful forms of exercise, encouraging muscular self-confidence, strengthening the frame, and building up the lungs. There will always, I suppose, be differences of opinion as to the best kind of stroke. The " overhand " stroke is fast for a short distance; the English " side stroke " is highly praised, and is practised by many prize winners. But the old-fashioned " breast stroke " is not likely to go out of fashion for a long while.

I suppose that in that interesting future we all like to talk about we shall have some surprising devices for traveling as well as amusing ourselves in water. We already have the water bicycle. Water-shoes, like those of Captain Boynton, sound better than they look, and I fancy they look better than they feel. As might be imagined from their appearance, these water-shoes do not permit a seven-league stride; in fact, they do not permit striding at

all. You simply have a boat on each foot, and must get yourself along with an oar or some other means of propulsion. If a person were in a hurry, it would pay to get these shoes off and swim. Captain Boynton's floating-suit was better, because it did not give so good an opportunity for getting the head under water and keeping it there. With an umbrella up to keep off the sun, a little floating box of provisions and utensils, and a neat paddle, Captain Boynton was really ready for a long and safe water journey.

But the ability to swim well, and for a long distance if necessary, is worth all the water apparatus that will ever be invented.

INTERCOLLEGIATE SOCCER



INTERCOLLEGIATE SOCCER

BY H. G. FRANCKE

INTERCOLLEGIATE soccer has recently passed the vital stage of early development and has passed it in such a manner as to clearly demonstrate that it has come to stay and that it is capable of providing a healthy source of athletic activity for any sound man and inciting keen competition among good sportsmen. Previously to the year 1907, there was no real organization between the colleges, but in that year Dr. Babbitt, of Haverford College, summoned representatives from various colleges that were playing the game to a certain extent, to a meeting where was formed what is known as the Intercollegiate Association Football League. This league now includes Harvard, Yale, Pennsylvania, Haverford, Columbia and Cornell. It has seen a very prosperous and continuous existence, with other colleges such as State College (Penn.), Princeton, and Brown considering the proposition of joining. In the South, soccer has been recently taken up by Lehigh, Franklin and Marshall, Stevens, and Delaware; in the East, besides those already mentioned,

Dartmouth, Williams, Amherst, and the Massachusetts Institute of Technology are playing the game; while in the West it has reached a stage of development probably superior to the East. Thus such a universal appreciation of the game speaks for itself and proves the real value of the game.

With this brief statement of the situation in American colleges at the present time, let us turn to the requirements of the game and how it is played by college athletes. Of course one must first recall that intercollegiate soccer does not approach the professional game of England and therefore my remarks will apply more especially to the game as played in this country.

As regards the type of man required to make a clever player, an active man of any stature can be developed into an efficient player. It has been maintained that large, powerful players, who can resist the hard knocks of the defense, are preferable for the forward line, but the small lithe man can easily elude a heavy halfback with what appears to be graceful ease. Thus to my mind a small fast forward line is the ideal condition, with possibly a heavier man in the center, because he is bound to be closely watched when near the goal and he must be able to withstand rough handling. It is the duty of the outside men especially to carry the ball by dribbling far into the opponents' territory and then unselfishly center it

to a position where the inside men can shoot advantageously. With this formation, therefore, we find at once three requirements. In the first place, the outside men must have thorough mastery of the ball, being able to pass the halfback line by dribbling and to center the ball at the crucial moment when hard pressed by the fullback. This ability of dribbling must not by any means be limited to the outside men, although it is more essential for them, but the greater efficiency the inside men have in this difficult art, the greater will be the variety and power of the offense. Next, the inside men must learn to shoot with accuracy and speed. It does not do for them to attempt to stop the ball and manœuver it into a more advantageous position, but they must be able to judge the bounces and shoot unexpectedly, before the fullbacks have the opportunity to charge or the halfbacks to come to the defense of the goal. Finally, every man must play an absolutely unselfish part by remaining constantly in his position, so that the man carrying the ball can rely implicitly on the whereabouts of his teammates and instinctively pass to the spot where he knows a man will be to receive it. In addition it is advisable for the forwards to be able to head the ball with accuracy, because many times it would give the opposing defense an opportunity to clear the ball if it were allowed to bounce, and on a corner kick

it is very difficult for a goal-tender to save a well-headed ball, because such a play does not reveal itself until the last moment when the forward leaps into the air. Thus a well playing forward line advances the ball by dribbling until attacked, then passes either for a short distance or across the field to draw the defense out of position, and finally centers to the inside when near the opponents' goal and shoots.

The halfbacks have a double duty thrust upon their shoulders. When the forwards are pressing the attack, the halfbacks must follow up behind them to render assistance if they lose the ball and to be prepared to receive a backward pass if the man with the ball finds himself unable to pass advantageously to another forward. When the opponents gain possession, the duties of the halfbacks become defensive. They must charge quickly before the forward line has an opportunity to get working smoothly and make the man with the ball pass. To be able to check an attack, the halfback line must be exceptionally fast and able to start and change direction suddenly. There can be no hesitation, because a fearless charge will tend to disconcert the man with the ball, thus enabling the halfback to gain possession himself or cause a poor pass to be made. If the halfbacks seek to cover the attack of each other, the defense becomes so much the more effective. By covering the attack I mean play-

ing together in such a manner that when one tackles the other two are prepared to intercept the pass. Let us assume that the center forward has the ball. As the center half charges the others drop back slightly, at the same time moving towards the center of the field. Thus when the center man compels a pass, the other two are in a favorable position to regain possession of the ball, whether it be a long or short pass. When the situation becomes offensive, the halfbacks must quickly sum up the conditions and determine what is the best course to follow. If the halfback is clear, he can carry the ball himself as far as he sees fit, but he must bear in mind that his forwards are the real scoring implement and not try to do too much himself. When attacked he must pass to his forwards and instinctively seek out that one who is uncovered, at the same time attempting to vary the play by short passes or by swinging the ball across the field. It is a very difficult question to answer, to what degree the halfbacks shall assume offensive duties, but it is safe to say that the best defense is a powerful attack, leaving much to the discretion of the player. From this we see that the halfback line must be composed of powerful men with good stamina and speed. For the forward line and fullbacks there is an occasional period of rest, but the halfbacks, especially is this true of the center halfback, who must bear the brunt

of the attack, must be continually on the alert, never trying to shirk the arduous duties imposed upon them. In addition to being able to kick with both feet with equal facility and accuracy, it is essential that the halfbacks be proficient in the art of heading the ball. If oftentimes the ball is allowed to touch the ground, an opposing forward can come in on the run and be down the field before the halfback can turn, but heading the ball prevents this absolutely if it is properly done. It is a good plan, when doing this, to judge exactly where the ball will come down to the height suitable for heading and lay off for a few seconds while permitting the opponent to get set as he waits for it to descend. Then, by jumping into the air on the run, one at the same time regains the ball away and gets a good start down the field. If one tries to head the ball by waiting so that one comes down where the ball naturally would have dropped, it is an easy matter for an opponent to throw one aside by a very light charge. This art is very useful, in fact one might even say necessary, when the opposing goal-tender is kicking out, because the ball takes a long flight with suffieient height to make heading the natural course to pursue.

We now come to the fullbacks, whose duties are purely defensive and therefore of great importance, because when they fail to stop the onrush, it is practically certain that a score



A BATTLE FOR THE BALL IN A HARVARD-YALE SOCCER GAME. GOOD FOOT-WORK IS ESSENTIAL IN SOCCER.



LEGAL BODY-CHECKING. NOTE THAT THE ARMS ARE HELD CLOSE TO THE SIDE.



HEADING THE BALL. AN IMPORTANT FEATURE IN SOCCER.



will follow, since an unprotected goal-tender is almost helpless when one considers the size of the goal that he is expected to cover. Here again the tackling must be hard and fearless, but at the same time it cannot be aimless and still yield good results. It is extremely disastrous for a fullback to charge without considering what his opponent is going to attempt, because then he is off his balance and a little sidestep will circumvent his best efforts, thus leaving a free course to the goal. If the fullback merely pretends to hesitate, he can trick his opponent into a movement that will disclose his intentions and give him the opportunity to charge effectively. Thus I have seen a fullback make a motion as if he were going to charge in such a position as to prevent a pass to a certain wing, whereupon the forward tried to go down the center or make a short pass in that direction, and then the fullback charged and spoiled the play. Thus a fullback must carefully study every movement of an approaching forward and try to fathom his intentions. As was the case with the rest of the team, the fullbacks must play in close touch with each other; when one charges, the other drops back and towards the center to intercept a pass or delay the line until the other back can return to his position in case he is eluded without causing a pass to be made. Here at Harvard we have tried a scheme which proved

of great service to us in our spring season of 1913. Perhaps it succeeded on account of the great speed of one of our fullbacks and perhaps it could be used in any combination, but it serves to illustrate how two fullbacks should play together with a mutual understanding. Instead of playing them side by side, we had a line formation whereby our captain, who was extremely fast, charged first. If he was successful in stopping the attack, well and good; if not, the other fullback crossed over at full speed and charged, thereby either gaining possession of the ball or causing sufficient delay for the other to regain his position. This system had the great advantage that it kept the play farther down the field than when the fullbacks played side by side, waiting for the attack to reach them, creating more opportunities for the successful interception of the ball.

It is very difficult to say anything of use or interest concerning the goal-tender. Of course it is advantageous although not essential for a goal-tender to have good height, but many small men have made up for this deficiency by their extreme agility and have developed into goal-tenders with what appear to be supernatural powers. It would be a physical impossibility to reach the ball in many cases where stops have been made, but a goal-tender seems to be able by intuition to intercept well placed shots. There are a few rules of position that

can be laid down, such as shifting towards a wing man carrying the ball, but on the whole, it is impossible to say what the goal-tender should do. It must be left to his discretion when the emergency presents itself.

To develop a team capable of taking part in a big series, one must first develop stamina and good wind by strict training and long runs. It is obvious that a team will be greatly weakened by the failure to get into good condition if one realizes that a regular game consists of two forty-five minute halves with a brief intermission and that no substitutions are allowed, although in the intercollegiate league a provision has been made to permit the use of one substitute per game.

After the preliminary training of long distance running the team should be made to develop speed and the power of quick starting, by devoting a considerable time to sudden, short sprints. Often the only way to prevent a score is by overtaking a man who has passed the rest of the team, and speed is the only requirement that can meet this contingency. The forward line must next learn individually to control the ball by running up and down the field at top speed, keeping it always not more than a yard in front. When shooting practice commences, it is our custom to draw up the forward line at a reasonable distance from the goal, with the halfback line supporting them

from behind. Thus the forwards learn to receive passes from each other and to shoot without delay, and the halfbacks learn how to feed the ball to the forwards in such a manner that it is not necessary to stop the ball before shooting. It is also desirable for the halfbacks to attempt occasionally long shots from their positions, because such a play may take a goal-tender unawares and result in a score. Finally, a course of development would consist in steady practice in heading the ball, whereby the men would not only learn to leave their feet, but also would acquire accuracy in direction. Merely hitting the ball is of no avail, in fact it can be disastrous if the ball glides off to an opponent. As great accuracy in hitting as in kicking is essential.

In conclusion let me say a few words concerning the great enjoyment of the game. So far I have had the pleasure of playing on the Harvard team for two years, when we finished at the head of the intercollegiate league after a very difficult series, most of the games being decided by the scant margin of one point. Of course the thrill of victory may have been responsible for a large part of the satisfaction obtained, but I firmly believe that the game affords a wonderful opportunity for healthy yet vigorous exercise, without the utter exhaustion and danger of injury found in other games. When one recalls how the game is

growing in our American colleges and that the preparatory schools are taking it up, one cannot fail to realize that it has come to stay and to develop into a game of widespread interest.





WRESTLING



WRESTLING

WRESTLING is an ancient and time-honored sport. It was practised by the Greeks in the time of Homer and its arts were known to the Hebrews in Old Testament times. To-day in its many forms it is quite universal. The Japanese are exponents of a style of wrestling known as jiu-jitsu. The European wrestlers meet usually under the Græco-Roman rules, while here in America we have our catch-as-catch-can variety.

It is not surprising that wrestling should have continued as a popular sport through all the centuries and in all climes. It offers better than can anything else that opportunity, which youth so constantly seeks, for testing its strength in combat with comrade or rival. And while bodily strength is paramount, roughness and brutality may be entirely absent. Furthermore, as a sport it requires little or no paraphernalia or equipment, no large number of players and no elaborate field for practice. The wrestler strips to the waist and meets his opponent on a mat which need measure no more than twenty feet square. Two strong bodies and two stout hearts, each with the love of con-

test, are all that are needed to make the bout a success.

I believe every boy should know something about wrestling just as he should of boxing and swimming. They all add to his manhood and to his strength and to his ability for self-defense and preservation. He may learn these things from his brothers at home, or at school, or from instructors, it matters little which, but when he has mastered them he assumes a place of no mean respect among his comrades.

In this article it is impossible to go into more than a few of the commoner holds. I shall attempt to describe how these are applied and how they are defended against.

First and most important is to assume a strong standing position, thus giving your opponent the least possible chance to gain the advantage while at the same time you are ready to move rapidly and seize whatever opening may present. To this end stand in a crouching position with the body bent slightly forward, the arms somewhat extended, the leading hand being more so than its mate. The feet should be rather well apart, one foot slightly ahead of the other. Do not have your arms so far extended that your opponent may use them as a lever in securing a hold, nor stand with the legs much bent at the knees, as they then offer an excellent mark for a diving hold.

If both contestants assume strong positions



THE REFEREE'S HOLD. THIS IS THE HOLD USUALLY ASSUMED AT THE BEGINNING OF A BOUT.



ST STANDING HOLD. THE WRESTER TRYING FOR THE HOLD HAS THROWN HIS OPPONENT'S LEFT ARM UP AND FORWARD, AND NOW HAS AN OPPORTUNITY TO SLIP BEHIND HIM.



THE SECOND STANDING HOLD. THE AGRESSOR HAS SECURED A GOOD HOLD ON HIS OPPONENT'S LEFT LEG AND IS SEEN TRIPPING THE RIGHT LEG.

they will fall naturally into so-called referee's hold, i. e., each will place his leading hand on the back of his opponent's neck while the other hand either grasps his opponent's leading arm at the elbow or hangs ready for action. This hold brings the men together, obviates much needless sparring for openings and is equally fair to each, so that neither should hesitate to assume it.

I shall mention three ways of throwing the opponent to the mat from the referee's hold. The first depends upon your ability to pull your opponent suddenly forward and past you. If you are successful this gives you the opportunity of clasping his waist from behind. With this advantage it should be possible to throw him to the mat either by throwing your whole weight sharply to one side and tripping him at the same instant, or by pushing him quickly forward with your whole strength and as you do so catching up one of his legs at the ankle. If you have managed to get behind him, one of these methods should bring your man to the mat. The second hold is somewhat more dangerous as an offensive move but more likely to end in a fall when successful. By a quick feint your opponent's arms are thrown upwards while at the same instant you dive for his forward leg. If successful you lift quickly and advance, entangling his other leg with your own as you carry him backwards and down.

The third hold is by far the most difficult but the most satisfactory and sure of a fall when well executed. It is an arm lock with a cross-body throw. If you have assumed the referee's hold you will be gripping your opponent's leading arm just above the elbow. The success of the hold which I am about to describe depends upon the firmness of that grip and upon the quickness with which the other moves are carried out. Draw your opponent's elbow suddenly towards you, at the same time slipping your leading arm around his neck and with the same motion turning your body by stepping sharply across in front of his body with your leading leg. Now with the leg acting as a fulcrum you throw your man across your hip and on to the mat. Do not loosen your grasp on his elbow or neck but fall with him, maintaining your grip until you have gained the fall.

If wrestling were all offense, any one of these three holds would always mean a fall for the man who attempted them, but wrestling also has its defensive side. In the first hold the defense consists in anticipating the pull and bracing against it, or in warding off the pulling hand. In the second hold, the best defense is to keep the legs well back so that they cannot be reached by a dive. But if your leg has been caught by the dive it is necessary either to break the hold by quickly straightening the leg and throwing your weight on your opponent in



THIRD STANDING HOLD. AN ARM-AND-HEAD LOCK WITH A CROSS-BODY THROW. NOTE THE GRIP ON THE ARM AND NECK, ALSO THE POSITION OF THE LEFT LEG.



THE FULL-NELSON. THIS HOLD IS BARRED IN AMATEUR WRESTLING.



THE HALF-NELSON. NOTE THE POINT OF LEVERAGE.



an endeavor to bear him to the mat, or to turn and fall on the mat in the defensive position. The defense against the third hold is very simple but must be used quickly in order to avail. By placing the heel of your hand in your opponent's groin or against his side as he attempts to turn his body to make the throw, it is easy to ward him off while you slip free. At the same time you should attempt to slip behind and throw him to the mat.

On the mat so much depends upon the defensive position that I shall describe it first. Whenever you are thrown to the mat you should try to assume a position on your hands and knees. This will enable you best to withstand your opponent's hold and to get away from him if the chance arises. Likewise if you are so fortunate as to be on top, do not forget that your opponent is working always to get up and that this position on his hands offers him the best chance.

Of the holds taken on the mat, the Nelsons are the most commonly used. They all are worked by using the arm and head as points of leverage. In the full Nelson, your arms are slipped one under each of your opponent's armpits and clasped on the back of his head. By pressing down on the head and lifting on the arms it is possible to turn your opponent in half a somersault and press his shoulders to the mat. This particular hold is barred in

amateur wrestling but should be known to all wrestlers as it contains the principle on which the others are worked, i. e., the leverage on the head and armpit. In the half Nelson no attempt is made to slip the arm under the more distant arm of your opponent. Instead the free hand is used to hold your opponent close and to assist in pushing down his head. In the "further half" the opposite arms are the parts involved.

The breaks for the Nelsons are all similar. They consist of an arm lock and body roll. Thus if your opponent has taken a half Nelson, you should lock his arm tightly between your arm and his side and roll quickly towards him, at the same time throwing your free arm over his body. This roll is often more effective in gaining a fall than the Nelson itself. The break for the "further half" is exactly the same except that the lock is on the other arm and the roll away from him.

The use of the leg scissors is very important. This hold alone is not usually enough to gain a fall but in conjunction with other holds is very effective. The scissors can be taken on the opponent's body, arms, legs or head. In the body scissors the legs are wrapped around the opponent's waist and the feet securely locked by pressing with the knees. This hold may be made very firm. The principle is exactly the same in the head or arm scissors.



BODY-SCISSORS WITH HALF-NELSON. DEFENSIVE WRESTLER TRYING TO BREAK SCISSORS BY UNLOCKING OPPONENT'S FEET.



HEAD-SCISSORS AND ARM-HOLD. THE DEFENSIVE WRESTLER IS ATTEMPTING TO PUSH HIS OPPONENT'S KNEES APART AND ESCAPE THE SCISSORS.



FINISHING THE ARM-LOCK AND ROLL. THIS IS THE COUNTER AND DEFENSE AGAINST THE HALF-NELSON. NOTE THAT THE OPPONENT'S ARM IS LOCKED ABOVE THE ELBOW.



PINNING OPPONENT TO THE MAT BY HALF-NELSON AND BODY HOLD. NOTE THE SCISSORS ON OPPONENT'S RIGHT ARM, ALSO HIS ATTEMPT TO PREVENT A FALL BY BRACING WITH HIS LEFT LEG.



The defense for the scissors is not to let your opponent get it, for once obtained it is hard to break. So if your man tries to take the scissors, try to push his knees away and keep his feet apart. If he is successful in his endeavor, the hold can be broken sometimes by reaching his feet and pulling them apart, or by turning quickly so as to face your opponent. This latter can be accomplished only when his grip has not been tightened.

These are but a few of the more important holds. However, it is no exaggeration to say that if these few are thoroughly mastered, they offer an offensive and defensive equipment sufficient for winning many a bout. It is far better to know these few well and be able to use them than to have a great many more half learned. A sense of poise and balance is of much greater value in winning bouts than any number of fancy holds. This comes naturally to some boys and others get it only after years of practice. Learn your few holds and when to use them, watch for your opponent's mistakes and take advantage of them, be careful but aggressive and you will find wrestling no mystery. It is a sport where quick wits, strength, and knowledge all play important parts.





LACROSSE

LACROSSE

BY PAUL GUSTAFSON

LACROSSE is a game for which we are indebted to the Indians, primarily, and to the Canadians, who have revised the play and formed a code of playing rules. The Indians used to play on fields of various sizes, and with a great number of players on each side. The fundamental principle of the game was, as it still is, to have the sides even; often as many as a hundred played on each team, and the goal-posts were placed a mile apart. Sometimes the play lasted all day without deciding a winner.

As the aborigines played lacrosse, it was a game for everybody. Each player made his own stick, or "crosse," from a bent branch and thongs, to make a "pocket" in which to catch the ball, which was made of leather. The man with the greatest endurance, speed, and cleverness in handling his stick, regardless of his size, became the most successful player.

About 1850, George Beers, of Canada, recognized the value of lacrosse as a game for others than the Indians, and introduced the game among civilized Canadians, at the same time

making definite rules. For this reason, he is rightly called the " father " of lacrosse, which has become the national game of Canada. In certain parts of Canada it is as popular as baseball is in the United States, and the boys begin playing as soon as they are able to lift their little sticks. Amateur and professional leagues have been formed, and all the schools and colleges have representative teams.

Lacrosse was first begun in the United States by Canadian players, who settled in New York about 1870. Since that time the game has gained in popularity, so that it is now played at many of the leading colleges and universities, preparatory schools, and clubs in several cities. The first intercollegiate lacrosse association was formed in 1882, the members of which were Yale, Princeton, Harvard, Columbia, and New York University. The Intercollegiate Lacrosse League now comprises Johns Hopkins, Swarthmore, Lehigh, Harvard, Cornell, Stevens, and Hobart. Many other colleges and training schools, including the United States Naval Academy at Annapolis, are represented by lacrosse teams, while at the Carlisle Indian School, lacrosse is played to the exclusion of baseball, in the spring. Among the clubs, the Crescent Athletic Club has done much to foster the game in New York, playing several Canadian teams each season; while Baltimore, Boston, and several Western cities

are represented by strong amateur teams, the players being chiefly men who used to play on school and college twelves. Among the younger players, lacrosse is most popular in the preparatory schools of Baltimore and New York, while Phillips Andover Academy has had a team for some years.

Just as the lacrosse the Indians played was a game for everybody, so to-day it is a game that anybody can take up with advantage, and "make good" at it. This may be easily understood, when a man weighing one hundred and fifteen pounds is seen playing against another who weighs two hundred; speed and stick-work make up for the difference in weight, and by constant practice a small man may become a better player than one much heavier.

I shall now try to outline the qualifications for a successful player and for a well-balanced team, for twelve good players do not necessarily make a good strong team unless their efforts are united to score more goals than the other side, and at the same time, if possible, prevent the opponents from lodging the ball safely in the objective goal-net.

The most important feature of individual playing is ability to handle one's stick. A man who can catch any ball which is within his reach, and throw it wherever he desires to, every single time, is exceptional. First of all, a good stick must be used. One made of raw-

hide and clock-cord which is fairly soft is best. It makes little difference, as in hockey, whether the player is right-handed or left-handed; it is best to stick to one system or the other until perfectly familiar with it, before attempting to be ambidextrous, though it is often of advantage to be able to handle the crosse equally well either way. I have found it useful to keep the hands well apart in passing, thus getting greater accuracy.

Good stick-work is obtained only by long and faithful practice, but unless the men on a team are sure of their own and their team-mates' passing, fast playing cannot result, and the ball is on the ground most of the time, instead of being in the air. The best way to become proficient is for a few men, and only a few, to pass the ball around from one to another, with every one in motion, for lacrosse is a moving game. As for playing with only one hand upon the stick, this should be attempted only in emergencies, as when warding off an opponent or holding the stick out of his way.

How shall the ball be held in one's stick? What is the best way to shoot, to get the most power behind the ball? These are questions which experience answers best. As soon as the ball is caught, it should assume a position next to the wood, and be kept there, until it is passed or " shot " at the opponents' goal. The only way to get at the proper direction is to let the

ball leave the stick at the bend in the wood. On a long, hard throw it may be started nearer the handle than in case of a short pass, but never should the ball be allowed to become caught in the leading-string, for then it invariably goes wrong. This, however, can be learned best by constant practice. The pass should always be where your colleague can most easily catch it and be in a position to throw again. I have found that a ball face-high is usually very easily caught, and the receiver is thus in a position to pass immediately. If he has to catch the pass at his ankles, it is necessary to lift the stick up before throwing, thus wasting time and losing opportunities.

The line-up of the teams is as follows:

	Goal
Inside Home	Point
Outside Home	Coverpoint
First Attack	First Defense
Second Attack	Second Defense
Third Attack	Third Defense
Center	Center
Third Defense	Third Attack
Second Defense	Second Attack
First Defense	First Attack
Coverpoint	Outside Home
Point	Inside Home
Goal	

Of the twelve men on the team, each player, with the exception of the goal-tender, has one direct opponent to play against. There are five attack men against five corresponding defense men, besides the center, who "faces off" at the beginning and after each goal.

As the field of play is one hundred and ten to one hundred and twenty-five yards long, there is ample room for the twenty-four players on the field at one time. There is no fixed way to line up, except that the centers face off with left side toward the goal they are attacking; that is, the referee places the ball upon the ground between their sticks, and when the referee calls "play" they draw their sticks toward them; while this is being done the other players must be at least ten feet away.

The third attack usually stations himself at the edge of the ten-foot circle, in order to be as near the ball as possible when it is put into play. The other attack men usually find it of advantage to keep spread out, so that the initial line-up usually is like that represented in Figure 1. The defense men are seen between their attack men and the goal, to prevent the attack from getting shots at goal unmolested.

It is true that the attack men score most of the goals; but in order that the attack may get into a position to score, it is necessary for the twelve men to work together as a team and that each individual keep his eye on the ball all the

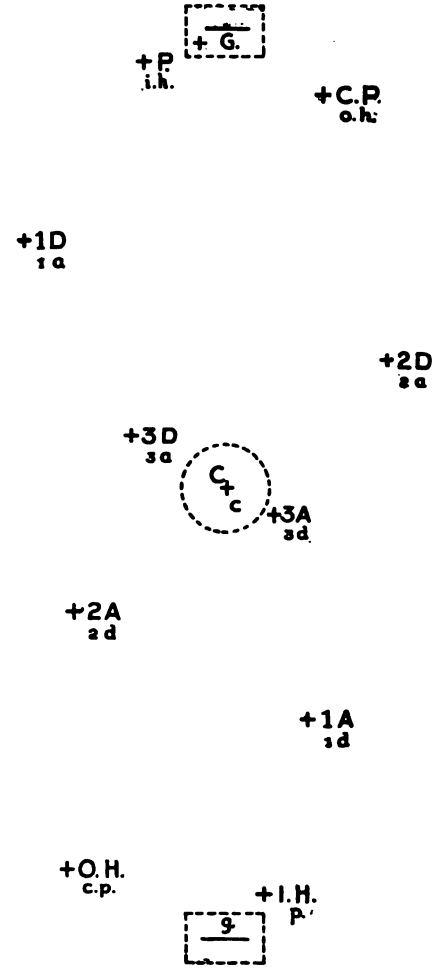


FIGURE 1

time. When a man from each team has started for the ball, a third man should immediately go to the assistance of his team-mate, and keep his opponent away from the ball long enough to allow his team-mate to get it. Body-checking is allowable when within six feet of the ball, though to check a man with the stick, a play called the "crosse-check," is a foul. The team which has the ball most of the time is usually the winner.

In no game is team-work more important than in lacrosse, and this applies particularly to the attack. Good defense alone cannot win games. The attack must break through or outwit the opposing defense and shoot the ball into the opponents' goal-net. There are certain rules which the attack men should always follow; the first is to keep moving all the time. If an attack man stands still, except when he is directly involved in the play, he is what the defense man calls "easy to cover," and his opponent does not have to watch him all the time. Another rule which seldom, if ever, calls for exception, is that the man move *toward the ball.* If you stand still or move away from it, then your opponent has a chance to intercept the pass; also, it is to be remembered that a straight hard pass is the only one to use.

If one team played with only eleven men, it is easily seen that the other team, with twelve, would have a decided advantage. If the team



LIVELY SCRIMMAGE IN FRONT OF GOAL. EACH ATTACKING PLAYER COVERED BY OPPOSING DEFENSE MAN.



THE FACE-OFF. CENTERS HAVE JUST PUT THE BALL INTO PLAY. NOTE DEFENSE MAN COVERING ATTACK MAN CLOSELY.



GOAL. BALL IS SEEN NEAR GROUND AFTER BEING STOPPED BY GOAL-KEEPER'S BODY.



BODY-CHECK. PLAYER WITH BACK TO THE CAMERA TRIES TO DODGE, BUT IS CHECKED AND LOSES THE BALL.



with the greater number of players got the ball, they would have an odd man, and theoretically they should not lose it until a goal had been scored. Thus, it is the effort of a team to get an extra man upon the attack, in that part of the field nearest the opponents' goal, when in possession of the ball. With sure passing and an accurate shot, a goal should result. On the other hand, the opposing defense tries to block all attempts to "get the extra man." It becomes a question not only of speed, but also of wits. An attack man may be able to run faster than the defense man against him, but cannot carry the ball past him.

There are several simple plays which, if properly executed, and if the proper moment is chosen, often result in securing the extra man. Let us suppose that the attack has the ball, but that each attack man is covered. The play is then for the third defense or the center to sprint suddenly away from his direct opponent, in toward goal. The attack man with the ball passes to the uncovered third defense, who keeps on until checked, or goes into goal and takes a shot. (Figure 2.)

In this case (Figure 2), the first attack has the ball, and all his fellow attack men are "covered close" by the defense. Now, when this extra man gets the ball, he continues until a defense man comes to check him, or until he gets to the "crease," six feet in front of the

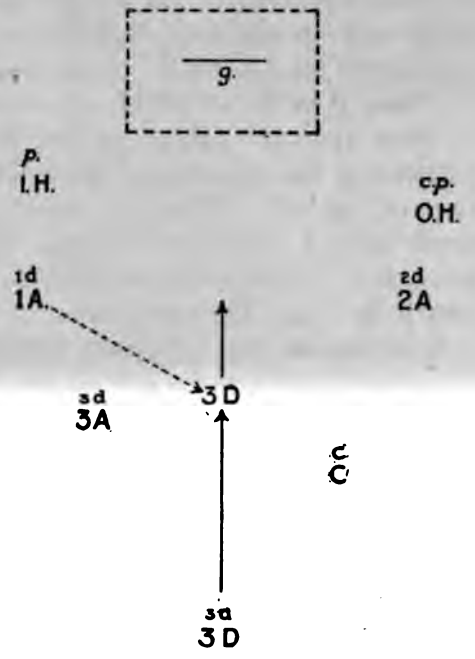


FIGURE 2

goal, within which he may not step, when he shoots. In case a defense man checks him (Figure 3), he passes to the man who is left uncovered, and is in a favorable position. Now let us suppose that the goal-tender has come out to check the inhome, as in this case; a shot at goal is taken, regardless of the distance. If no goal-tender is there, the ball passes directly into the net.

Frequently it is possible to get the extra man

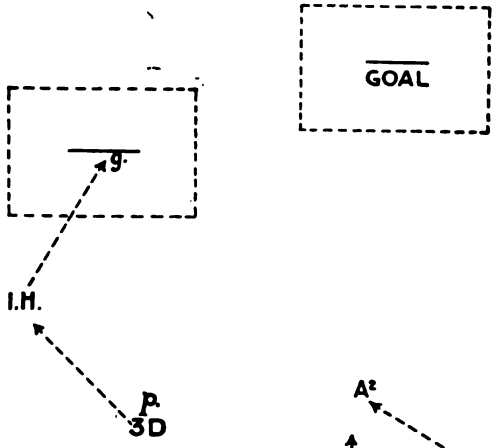


FIGURE 3

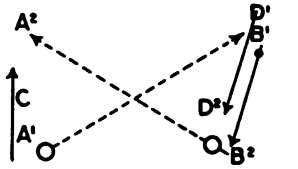


FIGURE 4

by what I choose to call the "pivot play." This term is self-explanatory to the veteran player. In this play the man with the ball passes to his colleague, and immediately rushes past his unsuspecting adversary and receives the quick return pass, thus gaining the advantage afforded by having the odd man. In Figure 4, A and B are attack men, playing against C and D respectively. A has the ball at A1, checked by C, while D is covering B closely at B1. B takes a step to B2, while A passes to him and dashes to A2, where he receives the pass and is free to take a shot at the goal.

Oftentimes a player finds himself deserted, so to speak, in possession of the ball, with only one defense man between himself and the goal, and too far out to have a chance of shooting past the goal-tender. Now is the time for individual play. He has nobody to pass to, only one man to get by, and if successful in the attempt to dodge, he is almost sure of a goal. There are various ways to dodge, but it is difficult to pass the experienced point or first defense; you must make up your own mind in a hurry, and have confidence that you can outguess your opponent. One way is to throw the ball over his head, then run past him and catch it; another way is to run around him, if you are faster on your feet; the third, and perhaps the most successful method, consists of making a feint at throwing or shooting, and while he is attempting to block the shot, instead of body-checking, he finds himself swinging at the air as the attack man wheels around, and passes him with the ball in his stick and a free shot at goal awaiting him. This method, however, requires a great deal of practice, but it is a good play to be able to execute, as such emergencies often arise.

The attack men shoot at the goal, but often the goal-tender stops the greater number of the shots, especially from far out, and often the ball goes past the goal. In the latter case, of course, the inhome and outhome should dash

behind the goal to get the ball, but if the goal-tender or a defense man gets the ball, the attack is immediately put on the defensive. The defense intends to pass the ball up the field toward the opponents' goal, and the opposing attack must not expect the defense to do all the defensive work. When the other side gets the ball, the attack men should "cover back;" that is, they should prevent the defense men from passing the ball up the field, and be careful not to let the other side have the extra man at any point, for the ball travels much faster than a player can run.

Often a goal-tender stops a great many shots in a game; thirty or forty attempts are intercepted by his body or stick, and he may let only one or two pass. Where one analyzes this wonderful defensive record, it is sometimes found that the attack men are not "placing" their shots, but letting them go to waste by hitting the goal-tender, or shooting too low when near the goal. After the work of bringing the ball into a position to score, the man making the shot should place the ball so that the goal-tender shall have hard work to stop it, for it is true that a goal-tender often feels the ball before he sees it, on close shots. When far away, it is well to make the ball bound at least waist-high; when close to the goal, aim for the top corners of the net.

It is the purpose of the defense to prevent the

opposing attack from scoring, and there are a few general rules which may be laid down for defense team-play. The attack has an advantage, of course, in that the defense must adjust itself to the style of offense, but the slightest slip-up is likely to give the defense the ball.

As long as every attack man is covered, he cannot get a free shot at the goal; therefore it is the first principle to "cover your man." In this case, the attack must shoot hurriedly and from a distance, and there is little danger of a score, with a reliable goal-tender. The real work comes when the attack, by clever manœuvering, gets the extra man, and begins to make a rush toward goal. What can the defense do? How can three defense men cover four attack men? It will be noticed that the attack men immediately spread out, so as to have one man free — uncovered. This man would be able to score, provided the defense took a man each. The thing to do is to draw in toward goal, retreat, as it were, and "bunch the attack," so that the defense man has a chance to intercept a pass or spoil a shot; in the meantime, if the attack men hesitate. another defense man is on the way to cover the extra man.

When an attack man has succeeded in passing his direct opponent, the defense man next nearer the goal must leave his man to check him. The defense man must be warned not to rush at him, but wait, and, if possible, delay

him while the other defense man is regaining his position. An axiom for a defense man is to run straight toward goal if another defense man is needed, for there he will find the last uncovered attack man ready to take a shot. The defense man must choose the correct moment to leave his own man to take another; if too early, this man never receives the pass; if too late, he has passed it along or shot a goal.

The ideal defense is the one that does not permit the opponents to get the extra man, but in case the attack outwits the defense and gets the extra man, the defense men must work together and prevent the opponents from getting a close shot.

The center is a combination of defense and attack; one moment, he is defending his own goal, the next, he is shooting at the other. This position requires a great amount of skill and endurance. The goal-tender, on the other hand, does very little running except behind the goal, when a shot goes by, but he must stand unflinching and stop with stick or body the hard and the easy shots of the opposing team. The requisites of the attack and defense men have been mentioned in detail. A good attack is made up of five men who have fine stick-work, plenty of initiative, and confidence in each other, while the successful defense is found to be the one, every man of which is determined to stop his opponent, and which works together

as a unit in stopping the adversary. In every position a man must think quickly and act quickly; lacrosse is a game which requires and develops alertness, speed, and stamina in every one who plays it.



A SHOT AT GOAL. NOTE TWO DEFENSE MEN COVERING ONE ATTACK MAN, THUS LEAVING AN ATTACK MAN UNGUARDED; ATTACK SHOULD BE COVERED, MAN FOR MAN.



DODGE. PLAYER DODGES BY DEFENSE MAN, WHO STRIKES AT BALL INSTEAD OF USING BODY TO CHECK HIS OPPONENT. NOTE POSITION OF BALL IN CROSSE CARRIED IN PLAYER'S LEFT HAND OUT OF OPPONENT'S REACH.



DODGE. DEFENSE MAN HAS TRIED TO HIT OPPONENT'S STICK INSTEAD OF BODY-CHECKING. ATTACK MAN DODGES AND BECOMES THE "EXTRA MAN."



SNAP-SHOT OF FAST PLAYING ON ATTACK. PLAYER WITH BALL IS PREPARING TO PASS OR SHOOT.





BASKETBALL



HOW TO PLAY BASKETBALL

The Defense

BY FRED A. KOHLER

Basketball, unlike football, baseball, hockey, and similar games, has no fixed system either of defense or offense. There are no mass plays or defensive formations as in football, no infield and outfield as in baseball, and no goal-tender or point as in hockey. Every player on a basketball team is as much a defensive player as he is offensive and *vice versa*.

In former years, when basketball was not as perfected as it now is, it was thought that the forwards were to do the scoring, the guards the defensive work, while the center did a little bit of both. This idea has been entirely discarded. In fact, to-day there is little or no difference between the duties of a forward and a guard. Both must be equally able to score and to prevent their opponents from doing so. In a recent game between Yale University and the University of Pennsylvania the forwards of both teams failed to score. In the majority of games, however, the number of points scored is

justly, evenly distributed among the whole five players. This shows plainly the tendency toward a team that scores and guards *as a team.* In other words, every man a forward, a guard, a center at the proper time; a "five man team."

When boys begin to organize teams they nearly always pay too much attention to individual shooting or guarding and overlook the vital element in the game, namely, team-play. The best team is not necessarily the team that can shoot most accurately, nor the team that guards most effectively. It is the team that plays entirely together, that guards together, passes together, shoots together.

Perhaps the best way for a team to develop team-play is the method now employed by nearly every well-coached team. At every practice there is a short scrimmage lasting from ten to fifteen minutes, in which no shots at the goal are attempted, merely getting possession of the ball and keeping it away from the opposing side. A team that can pass the ball around long enough will ultimately exhaust or demoralize their opponents.

This sort of passing, however, does not mean simply tossing the ball from player to player while standing still. Every player is expected to be moving and moving fast the entire game. No matter how well a man can shoot or guard, if he loafs, he had better be out of the game,

for it is practically the same as having six men on the other side; the "loafer" not only slows up his team-mates' play but he allows his man to run free. Every man must be always on the jump, always ready to receive a pass from one of his side or to intercept one of his opponents' throws. Besides this, he must be alert enough to pass the ball quickly and accurately to the proper man, to get free himself and to repeat the operation until a fairly easy chance for a basket is offered. The best way to express it is, "never stand still a second." Play as hard as you can and then ask for a chance to rest. Under the new regulations which require that time shall be taken out at least once every ten minutes there is no reason why a player should save his strength.

Handling the Ball

Another thing that teams should pay particular attention to is the practising how to handle the ball when the player is on the run. In any fast game practically all of the passes and shots are made by players while running. Practise catching and throwing the ball while you are in motion. Be able to pass or shoot accurately while at top speed. Players that have mastered that part of the game are the most dangerous men and the hardest to guard closely.

Now as to the defense. I said before that

every player must be able to play defensively when the other side has the ball. At such a time every player — center, forwards, guards, every one — must single out an opponent and try to prevent his passing or shooting. It is a mistake to try to "cover" the same man always. The best plan is for each player to take the opponent nearest him, no matter what position he is supposed to play. This is the hardest thing for a boys' team to master. Remember that it is a game between two teams, not five separate games between five different pairs of players. Guard as a team. The same idea is shown when a football defense line stays unchanged although the opposing line men drop back or shift. This means even more alertness in every player, yet, difficult as it may appear, it can be acquired with an average amount of careful practice.

If a certain member of the other side should succeed in scoring a large number of goals, do not necessarily blame the man who played against him. It is very seldom that any one man is entirely responsible for a basket made by the opponents; it is usually due to a number of misplays or mistakes in judgment by the rest of the team. Similarly the man that scores the largest number of points does not always deserve the greatest share of the credit; before he could shoot his team had to get the ball and work it down the floor into a position where he

could shoot the basket. When faults are apparent or good points very evident it is the team-play which is responsible rather than individuals, for it is team-play, both offensive and defensive, that either wins or loses the game.

In games where the dribble is allowed there is another phase in the defensive play. One player should always take care to be between the play and the basket he is defending. This does not mean that a guard should station himself on a certain spot and wait for some one to attempt a dribble, but he should always be in a position to cut in ahead of any such attempt. It often happens that all the other players have followed a play into the other half of the floor. In such a case the guard may follow right in, provided he make sure none of the other side are so placed that they could dribble past him and get a free shot. This player is not "loafing" by any means. He plays up and down on a line in the center of the floor and must watch both sides so as to head off a dribble down either side-line. It is not customary for any one player to do this "back playing" continually. Usually the man that happens to be farthest back tends to it. But as the dribble is becoming more and more restricted each year and is destined to be entirely eliminated from basketball some day it is not worth while paying too much attention to it.

Play the Ball

Another fault that younger teams should seek to avoid is the tendency to play the man rather than the ball. The players cannot seem to realize the time and points they lose in attempting to hold or block their opponents. Occasionally the "dirty" team will "get away with it." That is one of the big drawbacks in all sports: the possibility of winning by unfair means. Sooner or later every basketball player will be beaten unfairly. By that I mean that he is beaten by an inferior team who take unfair advantage. The natural impulse is to beat them at their own game, but it never pays in the long run. The team that plays a clean, fast game is sure to win over a team that wastes time and energy in trying to "body-check." After all it is the ball you play with, also it is the ball that your opponents must play with in order to win. Therefore play the ball always. If the man you are playing against has the ball *get your hands on the ball.* Don't try to spoil his shot or pass by striking his arm or by pushing or tripping him. Besides risking having a foul called you are wasting time and an opportunity. *Get the ball.* If you can't get it entirely away, get one hand on it. By so doing you prevent his making a shot or an accurate pass. If he is dribbling, wait until he starts to bounce the ball and then snatch it or bat it out

of his reach. A team that plays the ball entirely ought to beat a rough team easily. If they don't, it is usually because they try to return the rough play and so neglect their own style.

A striking example of the superiority of the fast-passing team that played the ball instead of the man was shown by the team of the University of Chicago a few years ago, the year that they played the two best teams in the East, Columbia and Pennsylvania. Columbia had a heavy team composed of individual stars who have yet to be equaled in individual excellence. They relied on these men to score and on the other heavy men to get the ball and "feed" them. When they lined up against Chicago it looked like an easy victory. Chicago, however, by fast passing and always playing the ball more than made up for their lack of individual stars and won the game by a comfortable margin.

Later on in the same season this same Chicago team was to play Pennsylvania for the intercollegiate championship. Pennsylvania had a wonderful team, with a dribbler who was supposed to be invincible. The best guards in the East had failed to stop his scoring. It was on dribbling that Pennsylvania relied mainly. Chicago was known to play the fast-passing game. The series was regarded with a great deal of interest since it would show which style

of play was the more efficient. The Chicago men had been instructed on stopping dribbles. They were to wait until the man started his dribble and then cut in and get the ball away. They did this and won two successive games and the championship.

So much then for the general outlines of the defensive play. It must be fast, clean and with well-developed team-play. But there are a number of minor details that it is well to know when playing on the defense. First, you must see how your opponent shoots, whether from the knees or from the chest. All players have a preference, one way or the other, and instinctively shoot that way. If the man guarding knows what to expect he can much more easily prevent a shot. Besides, always notice whether a man is left-handed or not. Jump for the side from which he throws. By taking advantage of such points you may break up a man's whole system of play.

When the other side has the ball, and you wish to prevent your man from receiving a pass, do not face him; try to keep one hand touching him, without holding him, of course, and watch the ball. In this way you are able to intercept almost any pass that can be made to him.

Sometimes it happens that a man has a free chance to pass and you are closing in, trying to block the throw. In such a case it is best to

watch the man's eyes as he always looks where he intends throwing. The same thing is true where an opponent has the ball out of bounds; any interference or partial blocking of the throw-in helps to break up, or at least slow the opponents' team-play.

Recovering the Ball

Another point well worth noticing is recovering the ball when a shot for either basket is tried and missed. Follow the course of the ball and try to foresee on which side of the basket it is going to drop, and how far back into the court it will rebound. Then be there, and get it. With a little practice this becomes almost second nature to a player and is of great service to his team.

When the opponents are throwing a foul, the man that shoots must be covered as soon as the ball reaches the basket to prevent any possible second shot by him, which would count two points.

These are, perhaps, the most common of the great number of situations that a player on the defensive has to face. Of course every game, almost every play brings in some new variation. There is only one fixed rule that could cover all such cases. It is this, "Play to get the ball." Players are beginning to realize that basketball is nine-tenths getting and keeping

the ball and one-tenth basket-shooting. Every time you get the ball from the other side and start a play that nets a score you are entitled to as much or, perhaps, more credit than the man that shot the goal. On the football field in 1911 the man that won the highest individual honors and the championship for his team was the man who watched for his chance and succeeded in getting the ball away suddenly and scoring on both Yale and Harvard. The alert basketball player can do exactly the same several times each game. When his opponents least expect it he can often intercept a pass or snatch the ball away and enable his team to score. It is plays like that that win or lose games and the players who make them most often are the most valuable players.

All that I have said heretofore has had reference only to the technical side of basketball and the purely mechanical requirements of the game. But there is much more in basketball than that. As in every sport, to be a good player a man, besides mastering the game's technicalities, must be a gentleman at heart. Basketball is no game for the man who loses his temper, or tries to " slug " his opponent, or indulges in any of the many other unsportsmanlike tactics. The truly excellent player is the player who will fight fairly as hard as he can and will smile good-naturedly whether he be winning or losing. After all, having the

higher score is not the most important thing in true sport. The man who, while the game is in progress and after it is over has both his self-respect and the respect of his team-mates and opponents is the one man that is always sure to win. His team may be outscored, but if he has outpointed and outclassed the other side in showing himself a truer gentleman, on the scoreboard of his own conscience and that of other men's opinion he is an easy winner.

BASKETBALL: THE OFFENSE

BY JAMES A. REILLY

THE offensive part of basketball is essentially the most important. Some may say that a good defense may result in a good offense, but I do not think this is so. Possession of the ball is what makes the opposing team defend its goal. Nothing could be better offense than to retain possession of the ball. It is with the ball that the scores are made, so why not control the score? If a team has possession of the ball often, it must necessarily develop team-play or individual play. When a player sees a chance to shoot or pass he immediately disposes of the ball.

It is most important for a team to be clever or have some idea of dexterity in the game of basketball in order to be among the winners. Cleverness is an essential part of the game, offensively and defensively.

Cleverness is a prominent feature for one who dribbles. He must be able to exert supreme control over the ball while in motion, must be elusive — especially so while dodging. He must have speed and courage. He cannot be cow-

ardly while dribbling. A good dribbler is the hardest sort of a man to stop. He is generally coming directly toward you and at full speed. If you rush at him quickly he evades you by clever dodging. If you stay still he is liable to be upset or upset you.

The new dribble rule has affected the playing of many men, especially those who always have played a dribbling game. According to the new rule, the man cannot touch both hands to the ball after receiving it more than twice and still be entitled to a shot. This is the essence of the intercollegiate rule. Formerly there was no prohibition against using two hands as often as one wished. This new ruling makes a player use one hand oftener in dribbling, which is undoubtedly the best way. It is much more difficult to use two hands in dribbling than one.

A slow dribbler is a hindrance to the offense. He must be quick and accurate in timing and gauging the distance he has to cover in his dribble. It is well to know just how far to continue the dribble. Many a good chance for a shot has been spoiled by a player dribbling just once too often when he could have completed it earlier. In dribbling a player ought to remember that it is best to be advancing as rapidly as possible. Some players will stand and dribble, making no advancement. It is better to hold the ball and not dribble if no advance is being made.

Always dribble while in motion and try to dribble toward your opponents' goal. No rule can be laid down in regard to this as many times it is necessary to go toward your own goal.

Much may be said against advancing toward your own goal. If a team would advance toward its own goal only when necessary then all would be well. The question then arises when is it necessary? My answer would be only when there is no chance for a shot or for team-play to advance toward your opponents' goal. In many instances a man has no chance for a basket, but one of his team-mates is behind him, clear for a shot. If the ball is passed back it is easier for the player behind to shoot. The first player is generally covered, or about to be covered, or is distracted in his shot in some way. Not enough plays which require the ball to be passed backward have been used, and there will surely be more of these.

Team-work

I believe in team-work, more so than in individual playing, provided the team-work proves successful. If team-work does not prove successful then I believe in individual playing. By team-work I mean plays in which every man on the team is concerned. It is certain that the more there are trying to obtain possession of

the ball the more cumbersome it is for all players. The fewer there are trying to get the ball the easier it is to break up plays or to start plays. Team-work generally proves successful in teams which have played together for some length of time, say two years. Each player feels that he knows where his team-mates will be on every play. If this is the case, then team-work ought to be successful.

Team-work develops instinct among the players; they seem to think and play as do their team-mates. Fast, clever team-work is enough to dazzle any team which relies on individual playing. But fast, clever team-work is something which is rarely seen.

Now in regard to individual playing. If a team has one star man, accurate in shooting — both fouls and goals — it has a very valuable asset. The basketball term "feeding to a man," means passing the ball to one man, who is supposed to be the most accurate shooter. This "feeding" game is a good one provided the right man is located. The man to whom the ball is fed can generally be found in the vicinity of his opponents' basket. A tall, clever man is generally the kind whom it would be best to "feed" to. He has the advantage of being able to get the ball above the reach of the man guarding him, provided the pass is what it should be. He has the advantage of a long reach for the ball.

Passing

Accuracy, cleverness and skilfulness in passing are an essential in basketball. Nothing is more discouraging than to see a man make a wild pass. In some cases a man will pass, or rather throw the ball, not having the slightest idea where it is going. This sort of passing is demoralizing. One must pass the ball at the proper time. For instance, a slow pass across the floor to a man going at full speed generally results in a failure. If the pass is to be a short one it can be made too speedily. Many a basket is lost on too hard or rather too swift a pass at close range.

Passes which are thrown high in the air are of no use, except in rare cases. When passes are made this way it gives time for one's opponents to cover their men. Often these passes are intercepted by one's opponents. Long passes are good if they are made with sufficient speed to carry their distance. These passes generally travel almost parallel to the floor, but sufficiently high to prevent their being intercepted. Overhand passes are the best, and most commonly used. Few underhand passes are used nowadays.

Long passes can be made better with one hand than with two. In fact all passes can be made better with one hand. Passes with two hands used generally are made when the ball

is being thrown in from out of bounds to in-bounds.

In many cases a pass could be made by bouncing the ball to one's team-mate. This however is seldom done, since the ball does not travel as fast as by direct passing. A swift pass to a man makes him feel confident when he catches it. A man must have good judgment in catching the ball or he may injure a finger or wrist. In many cases a pass can be made by rolling the ball along the floor and this is very often done. For instance if a man was covered and had the ball on the floor, and if one of his team-mates were near, he could roll it along the floor to him.

In some gymnasiums the walls are used as a means of passing, for instance, where there are no out-of-bounds rules and the wall on one side is such that a ball can be caromed from it. This can be used to advantage. A team-mate can stand at a certain spot and receive the pass after the carom. No gymnasium or basketball court equipped in modern fashion would have this, but it is a frequent occurrence in small gymnasiums.

Signals

Many teams base a great deal of their play on the use of signals; others do not. A system counts to a great advantage in any sport, and

if a system of signals can be developed successfully a winning team should result. Some teams have signals in the way of numbers, that is their plays are numbered.

If number one play is wanted, generally the center calls aloud " one." Signals by the use of the hands or feet are common among most basketball teams. For instance some teams will have the captain give the signals by passing his hand through his hair, or placing his hand on his hip, or some such signal. If the right hand is up it means the man on the right of the center. If the left hand is up, it means the man on the left side of the center is to receive the tip-off, and start the play.

The center seems to be the best man to give the signals. He is at the spot where the play starts and should be capable of knowing which play or signal to call for at the proper time. Some centers give signals by the manner or direction in which they walk into the center circle. If a center should walk into the circle from the left it might mean that he was to tip the ball to either the left forward or left guard. Entering the right side applies as above to the right forward and guard. Signals can be given by a guard or forward.

It is a very hard thing to be able to play a game without having your signals discovered. By the end of the first period the signals are known. It would be a good plan to have two

sets of signals in case one should be found out. The change could be made without much difficulty.

In order for signals to work successfully the center must be a man capable of outjumping his opponent at the toss-up of the ball. It doesn't necessarily mean that a center be extremely tall. I have seen centers many inches shorter than their opponents still able to outjump them. In most cases the taller man is the best, but the shorter man may outjump the taller.

If the center man is able to win the jump or toss-up, there is an instant advantage. He has the play started toward his opponents' goal. The center's team-mate, generally the forward, should be ready to receive the tip-off and continue the play. It is much better for the forward or guard to receive the ball while in the air rather than when it hits the floor, or after it has hit the floor. This makes the play faster and allows the man to keep the ball in a more advantageous position.

When the Ball Is Held

A common play for a jump is not from the center but in most cases near the side-line. Here again a signal comes in handy. If a man could signal to his team-mate that he is going to knock the ball out of bounds, his mate could

be ready to get it as soon as it went out of bounds. This is allowed under the intercollegiate rules. But under the A. A. U. rules the ball would have to go to the opposite side from the one that knocked it out.

Securing the ball out of bounds is a distinct advantage to a team. It allows the team to start the play with really no opposition. There is the opponent who tries to prevent the ball from being thrown into play, but he should never be in such a position as to break up a pass from out of bounds. This is an important pass.

The man opposing the man outside generally stands close to the outside man with his arms in the air in an endeavor to try to stop the pass. At close quarters it is easier to pass the ball by a man than when the men are widely separated. If the man just inside the out of bounds line could glance quickly behind him to get some idea of how his opponents are located he might be able to break up the pass, as he has some idea in which direction the pass is going to be made. A play which when started from out of bounds is broken up immediately before reaching the in-bounds line is demoralizing. It is a case where the easiest play is broken up. It is a play which never ought to fail, but through carelessness it fails more often than any other play. Make the easy plays the safest and the harder ones will take care of themselves.

Some men are more clever than others in this

game of basketball. For instance a forward is generally more clever than a guard. The forwards must be wide-awake, quick, alert, and last of all clever. They are, with the center, the chief scoring players in the game.

The center is the pivot man and, with the forwards, does most of the scoring.

If the forwards find it impossible to score as much as they should the guards should not hesitate to take chances to count goals. Many teams do not have their guards come down the floor enough to shoot for a basket. Clever shooting guards are necessary for most teams unless the forward men are exceptional. Every man on the team should have as much basket-shooting practice as possible. Baskets count twice as much as fouls.

Free Throws

Fouls play a very important part in the scoring of the present day game, especially so under the intercollegiate rules. If a clever foul-shooter can be developed, he is a valuable man to any team. If he can he counted on to shoot seven-tenths of his tries, he plays an important part in the score. Ten intercollegiate games of the past season were really won by superior basket-shooting. More were won by superior foul-shooting. Too many fouls undoubtedly spoil a basketball game, and this was often the

case in the intercollegiate series. Some teams have a good foul-shooter who is generally a good basket-shooter. This is not always the case, as it is a different proposition to be shooting for the basket while in motion, as is generally the case, from what it is when one is shooting at leisure from the foul-line. A man who can shoot half the fouls he tries for is maintaining a good average.

Under the intercollegiate rules fouls are the chief point-scoring means. Some games of the past season contained as many as forty-one fouls. Twenty-two fouls were called on one team and nineteen on the other. There were forty minutes of playing time. This makes an average of a foul a minute. Games of this sort are not interesting to watch. There were no reasons for so many fouls being called, but if the officials insist on calling fouls it is necessary to have a good foul-shooter on any team.

In general if a team has at least one good dribbler, a clever center around whom a team can be built, a good foul-shooter, a signal system, there is no reason why it should not be successful. As is said above, possession of the ball is the chief factor. This is so of any game but especially in basketball.



GOLF



GOLF: THE COMING GAME

BY RALPH CRACKNELL

GOLF is the coming game. Already it has more than kept pace with its younger rivals; and, from a purely local Scotch game, has extended its fascinations to every English-speaking community.

That the international popularity of golf, widespread as it already is, will go on increasing, seems an assured fact, as it is based on certain unique characteristics, in which the grand old game has no rivals.

In golfing, the mental, as well as the physical and muscular, qualities are called into full play. Like the surface of the ideal golf link, the game presents a series of perpetual changes. Difficulty after difficulty arises, which the player is called upon to surmount by cool judgment and prompt action. The same complication may never occur twice in identical circumstances; therefore the ingenuity, skill, and intelligence of the golfer have unlimited scope.

Meanwhile, although the violent, intermittent exercise, which renders baseball, cricket, and

football impracticable to all save veritable athletes, can always be avoided in golf; the legs and arms are called into equable and invigorating action.

Unlike almost all other out-door games, golf can be played all the year round. This is even possible during the winter months, as an admirable game can be insured upon the snow by the use of red balls.

But its most generally appreciated peculiarity is, that it may include among its devotees five of Shakespeare's "Seven ages of man," from the immature schoolboy to the "lean and slippered pantaloon;" while the girls, too, are afforded an equal opportunity to develop practical enthusiasm, if not proficiency.

Almost the only indispensable requisite of a golf course is space. If a sufficient area is available, the impracticability of the surface for other games is rather a recommendation; all such irregularities and impediments are known as "bunkers." Without these, all would be literally flat, stale, and unprofitable to the chronic golfer, who estimates his enjoyment by the number of "hazards" such obstructions oblige him to play.

The full course may be any distance from three to five miles, though a course half the size may be played round twice. Eighteen holes, from four and a half to five inches in depth and diameter, are cut in the turf at intervals, not

necessarily equidistant, and kept in shape with a metal lining.

The turf around each hole for about twenty yards must be perfectly level. These spaces are known as "putting-greens," and are tended as so many gardens. In each hole is placed a long rod, surmounted by a flag, to indicate its locality; but should the course be unusually undulating, additional "guide flags" are placed to mark the route from hole to hole. These flags should be of a uniform color for half the circuit, while those indicating the return route should be a distinct contrast.

Adjoining each "putting-green," a small space within painted lines is reserved as a "teeing-ground." It is from this the ball is "teed" toward the next hole. To facilitate the game, a box of sand is generally placed within reach of the players; and, from this, a bit of sand may be taken to elevate the ball slightly, and insure a clean and effective hit.

The ball used is about five inches in circumference, and made with a gutta-percha cover, enclosing a variously constructed core containing rubber. The game commences by each side playing a ball from the teeing ground, where the start and finish of the course converge in the direction of the first hole. A side may consist of one or more players, and two or more sides constitute a game. The hole is won by the side "holing its ball" in the fewest

strokes. When the strokes are equal, the hole is divided.

As the hole is approached by the leading player, the flagstaff is temporarily removed until the hole is scored. The ball is then struck from the adjacent " teeing-ground " in the direction of the second hole, and so on. In a match the partners strike alternately from the tees, and also during the play of the hole.

The players who are to strike against each other should be named at starting, and continue in the same order. The side winning a hole leads in starting for the next. This privilege is called the " honor."

One round of the links (a round amounts generally to eighteen holes in all) is a match, unless otherwise agreed upon. The match is won by the side which gets more holes ahead than remain to be played, or by the side winning the last hole when the score is even at the previous one.

When there is only one player on each side, the match is called a " singles." Two players on a side constitute a " foursome." These are the two most common and popular forms of golf.

What lends golf the variety and uncertainty which are its chief fascinations, is the diversified surface over which it is played. All obstructions, from scrub to stone walls, intercept the ball in its progress from hole to hole. As it

cannot be handled, save in very exceptional cases, it must be "played out" of the "bunker" or "hazard" which stopped its flight. To make the smallest number of strokes to release it, clubs in great variety are used.

A moderate golf equipment is supposed to include the driver, long spoon, short spoon, brassie, driving iron, lofting iron, mashie, cleek, niblick, and putter. The first four and the last have wooden heads. The remainder are of iron. The driver is used for "teeing," and easy, long-distance strokes. The long spoon is used in high grass, and when elevation of the ball is desired. The "driving" and "lofting" irons serve as more powerful alternates. The short spoon is used for short drives, and when the player stands below the level of the ball. The brassie, niblick, and cleek are tried in very awkward "hazards." The "mashie" and "putter" come into play when on or near the "putting-green."

GOLF AS A GAME

BY S. P. GRIFFITTS

For just how many years the game of golf has been played, no one knows; but it is safe to say that it has an earlier origin than most people believe. It may be stated with a reasonable degree of certainty that the game was known to the Dutch in the early part of the fifteenth century, and that it was played in Holland before it was taken up in Scotland, with which country the name of golf is so generally associated.

When the game was introduced into Scotland, it was at once taken up rather extensively. While the exact date of its début into Scottish society is not known, it was played so much in 1457 as to seriously interfere with the important pursuit of archery. In fact, it was becoming so popular that it was beginning to consume much of the time of the Scottish business men. In the spring of 1457 the Scottish Parliament "decreted and ordained that the fute-ball and golf be utterly cryit down and nocht usit." Even as late as 1491, the pastime was still being condemned, and in that year the following re-

sentful fulmination was drawn up: "Fute-ball and Golfe forbidden. Item, it is statut and ordainit that in na place of the realme there be usit fute-ball, golfe, or uther sik unprofitabill sportis." In spite of the cry against it, however, the game had come to stay, and continued to flourish. Of course the game of golf of the fifteenth century had far different characteristics from the game as it is played to-day; but the fact remains that golf as a sport was conceived of, inaugurated, indulged in, and enjoyed at a very early date.

In more recent years, golf as a universal game has had a remarkable growth. Thirty years ago the man who traveled about England with a set of golf clubs created quite a sensation among his fellow-men. Even the elementary principles of the game were not generally understood. It was often confounded in the popular mind with the game of polo, and one of the most frequent questions in regard to the game was, "You have to be a fine rider, do you not, to play golf?" But all of a sudden, for no very obvious reason, the game seemed to assume a commanding position in the eyes of the sportive world, and ever since its popularity has increased tremendously.

And now let us try to analyze why it is that the game has been so favored by the sport-loving public and has enjoyed such a rapid growth. Occasionally one hears it stated in the

ourse of conversation that golf is an old man's game, that it does not afford sufficient exercise for the younger generation. The game is turned down by a certain minority as being too expensive for every-day indulgence, and not worth while. These seem to be rather loose statements of the facts, however. In answer to the first criticism, while the writer gladly admits that golf is a source of pleasure for the older generation, yet he maintains that the game offers amply sufficient exercise for the health and well-being of the younger generation as well. The adaptability of the game of golf is one of its main features. It is a game which need not of necessity be dropped when a man reaches his riper years. Not only is the game favorable to continued participation from youth to old age, but it may easily be taken up by a man of two score years or more and learned sufficiently well to afford him interesting diversion. The older player is generally contented if he succeeds in hitting the ball for a moderate distance down the center of the course. He relies upon accuracy, and does not depend upon distance. The younger player, on the other hand, is as a rule not so accurate, but relies upon greater distance and sensational recoveries. He hits the ball harder, with the exertion of a greater amount of energy; and as a result he obtains a proportionately greater amount of exercise from the playing of his

strokes. But it is not so much the actual play as the vast amount of necessary walking which affords the chief exercise to be derived from golf. Thus golf is a game suitable to the requisitions of both old and young. As to the expense, it is true that golf requires a larger cash outlay than many other games; but the acknowledgment of the statement that the game is not worth while does not follow. Although it is a comparatively expensive pastime, its physical, temperamental, and social advantages far outweigh any slight financial disadvantage.

We have reviewed the physical advantages of the game. Now let us look at its temperamental and social advantages. It is very rare for a person to become a successful golfer until he has perfected his faculty of self-control. Patience is an all-important factor, especially if one aspires to fame in the golfing world and participates in tournament play. Again, an easily disconcerted person is greatly handicapped; for accuracy is essential, and the slightest miscalculation will bring disastrous results. The player must not allow himself to be readily discouraged at some disappointment in the course of play, because, in medal play especially, the outcome of the game is as a rule uncertain to the very end. Victories are often achieved after uphill struggles and under decidedly unfavorable circumstances. A well-known case is that of the veteran Tom Morris,

who, having played into a bunker, was asked whether he intended to "pick up." With his characteristic perseverance and determination he replied, "Na, I might hole it," and sure enough he did. Thus the interest in the play never lags. The social advantages of the game are self-evident. It should be borne in mind, however, that golf is a gentleman's game, and that more than one large business deal has been closed on the golf links.

So popular has the game become in the United States that hundreds of clubhouses and courses have been constructed and are now in the process of construction throughout the country. To-day the United States and Great Britain are unquestionably the two most enthusiastic golfing nations of the world. The United States has kept up well with Great Britain in producing players who have not only performed remarkably on particular occasions but have performed consistently well on almost all occasions. There are many players worthy of mention, and it is a difficult task to single out the star performers; but there are a few whose performances are hard to ignore. The golf which has been and is still being exhibited by Walter J. Travis is indeed wonderful. Not only has he been three times holder of the Metropolitan title and three times holder of the National Amateur title in the United States, but he has also invaded foreign fields of con-

quest. It was in 1904 that he won the British Amateur championship at Sandwich, England, defeating E. B. H. Blackwell in the final round. Travis is still an exceptionally difficult man to beat in spite of his years, and is still a stumbling-block in tournament play for many a youthful aspirant to golfing fame. H. Chandler Egan, whose business has not enabled him to participate in the recent Western Amateur and National Amateur championships, has a record to his credit no less worthy of praise. Beginning his chain of victories by winning the Intercollegiate championship in 1902, he won the Western Amateur championship in 1902, 1904, 1905, and 1907, and the United States Amateur championship in 1904 and 1905. Jerome D. Travers is probably the best and most consistent match player in the country to-day. He won the Metropolitan championship in 1906 and 1907, and is a four-times winner of the United States Amateur championship, having been returned victorious in 1907, 1908, 1912, and 1913. Such a record needs no explanation. While Charles (" Chick ") Evans, Jr., has not so many titles to his credit, nevertheless he looms up year after year as a finalist and semi-finalist in the big tournaments. In 1910 he established a record for an amateur by winning the Western Open title, and he also won the Western Amateur championship in 1909 and 1912. In addition, Evans won the French Ama-

teur title in 1911, defeating J. G. Anderson, another United States participant, in the final round. His poor putting has been a severe handicap to his play of late; but he is a player who is never to be counted as out of the running, no matter how poor a start he may make in a match or medal play competition. The writer will never forget the qualifying round of a tournament held in the vicinity of Chicago a few years ago. "Chick" was considered to have a good chance to win the low gross medal; but when he took forty-five for the first nine holes of the eighteen hole qualifying round, no one conceded him a fighting chance for a victorious finish. The second nine holes, however, he succeeded in completing in thirty-two strokes for a total of seventy-seven, which was the low score of the day. Such a recovery is often hoped for, but seldom made.

The most recent accomplishment of an American golfer, and one of which the nation is justly proud, is the victory of Francis Ouimet, of Boston, in the United States Open championship of 1913. This championship, which was played over the course of the Brookline Country Club, assumed the nature of an international competition because of the participation of such famed foreign players as Harry Vardon and Edward Ray, of England, and Louis Tellier, of France. Not only did Ouimet establish himself as the first amateur to win the

United States Open title, but he must also be credited with winning that title from the most difficult field of players that ever contended for the championship. By making a most remarkable and sensational finish on September 19th, Ouimet was enabled to tie for low score with Harry Vardon and Edward Ray, of England. On the following day, which was rainy and decidedly unfavorable for golfing, the young Boston amateur traversed the difficult Country Club links in seventy-two strokes, taking thirty-eight for the first nine and thirty-four for the second nine holes. The best Vardon could score under the adverse weather conditions was 39-38-77, while Ray required 40-38-78. It is safe to say that no golfer has ever displayed such nerve nor achieved such distinction as Ouimet did on this occasion. Harold H. Hilton and John Ball have won the British Open title, competing against fields of skilled professionals; but neither of them ever went out in company with two such men as Harry Vardon and Edward Ray, and, with so much at stake and such responsibility to shoulder, made them take trailing positions. Travis tied for second place in the U. S. G. A. Open championship some thirteen years ago at Garden City, but no player ever got beyond that point in the National Open event. The *Boston Transcript* commented upon Ouimet's victory as follows: "Words utterly fail in attempting to describe

how Francis Ouimet, a young Boston amateur golfer, defeated the world-famous Harry Vardon and the almost equally famous Edward Ray, both of England, at the Country Club in Brookline in the play-off for the open championship of the United States Golf Association. To say that his performance was brilliant is feeble, to say that it was perfectly astounding and will come as the greatest shock ever experienced in the British Isles, the breeding ground of the greatest players the world has known, is only lightly to convey the state of mind of those who looked on as the match progressed, hole by hole, to its ultimate triumph for the Boston boy." In short, with such players as Francis Ouimet, of Boston, "Nick" Allis, of Milwaukee, and Fraser Hale, of Chicago, just rising into prominence, and with men of such high caliber as "Chick" Evans, Warren K. Wood, Robert A. Gardner, and Albert Seckel, of Chicago, J. G. Anderson and P. W. Whittemore, of Boston, Eben M. Ayers and W. C. Fownes, Jr., of the Pennsylvania district, and Walter J. Travis, Jerome D. Travers, and Fred Herreshoff, of the Metropolitan district, in addition to numerous others, the United States seems to have succeeded in developing a strong golfing contingent. May the sport continue to flourish in the future as it has during the past thirty years!

THE END.

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